

# SEQUENCE LISTING

<110> Rouleau, Guy A.  
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<120> LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS THEREOF AND METHOD  
USING SAME TO ASSESS, DIAGNOSE, PROGNOSIS OR TREAT EPILEPSY

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<141> 2003-09-17

<140> 09/718,355

<141> 2000-11-24

<150> 60/167,623

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<170> PatentIn version 3.1

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			20					25					30		

Lys	Ala	Lys	Asn	Pro	Lys	Pro	Asp	Lys	Lys	Asp	Asp	Asp	Glu	Asn	Gly
		35					40					45			

Pro	Lys	Pro	Asn	Ser	Asp	Leu	Glu	Ala	Gly	Lys	Asn	Leu	Pro	Phe	Ile
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Tyr	Gly	Asp	Ile	Pro	Pro	Glu	Met	Val	Ser	Glu	Pro	Leu	Glu	Asp	Leu
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Asp	Pro	Tyr	Tyr	Ile	Asn	Lys	Lys	Thr	Phe	Ile	Val	Leu	Asn	Lys	Gly
				85					90					95	

Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr  
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser  
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Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe  
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Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr  
145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg  
165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp  
180 185 190

Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val Asp  
195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu  
210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu  
225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe  
245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn  
260 265 270

Leu Arg Asn Lys Cys Ile Gln Trp Pro Pro Thr Asn Ala Ser Leu Glu  
275 280 285

Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu  
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Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp  
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Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys  
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Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val  
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Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe  
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Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp  
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Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met  
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Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn  
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Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile  
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Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala  
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Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser  
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Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu  
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Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly  
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Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser  
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Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr  
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Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg  
545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser  
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Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp  
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Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu  
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Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln  
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys  
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Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly  
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Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile  
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Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu  
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Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu  
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Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu  
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Thr Asn Thr Val Glu Glu Leu Glu Glu Ser Arg Gln Lys Cys Pro Pro  
725 730 735

Cys Trp Tyr Lys Phe Ser Asn Ile Phe Leu Ile Trp Asp Cys Ser Pro  
740 745 750

Tyr Trp Leu Lys Val Lys His Val Val Asn Leu Val Val Met Asp Pro  
755 760 765

Phe Val Asp Leu Ala Ile Thr Ile Cys Ile Val Leu Asn Thr Leu Phe

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Ile	Arg	Lys	Gln	Lys	Ile	Leu	Asp	Glu	Ile	Lys	Pro	Leu	Asp	Asp
1040						1045					1050			
Leu	Asn	Asn	Lys	Lys	Asp	Ser	Cys	Met	Ser	Asn	His	Thr	Ala	Glu
1055						1060					1065			
Ile	Gly	Lys	Asp	Leu	Asp	Tyr	Leu	Lys	Asp	Val	Asn	Gly	Thr	Thr
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Ser	Gly	Ile	Gly	Thr	Gly	Ser	Ser	Val	Glu	Lys	Tyr	Ile	Ile	Asp
1085						1090					1095			
Glu	Ser	Asp	Tyr	Met	Ser	Phe	Ile	Asn	Asn	Pro	Ser	Leu	Thr	Val
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Thr	Val	Pro	Ile	Ala	Val	Gly	Glu	Ser	Asp	Phe	Glu	Asn	Leu	Asn
1115						1120					1125			
Thr	Glu	Asp	Phe	Ser	Ser	Glu	Ser	Asp	Leu	Glu	Glu	Ser	Lys	Glu
1130						1135					1140			
Lys	Leu	Asn	Glu	Ser	Ser	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp
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Ile	Gly	Ala	Pro	Val	Glu	Glu	Gln	Pro	Val	Val	Glu	Pro	Glu	Glu
1160						1165					1170			
Thr	Leu	Glu	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Val	Gln	Arg
1175						1180					1185			
Phe	Lys	Cys	Cys	Gln	Ile	Asn	Val	Glu	Glu	Gly	Arg	Gly	Lys	Gln
1190						1195					1200			
Trp	Trp	Asn	Leu	Arg	Arg	Thr	Cys	Phe	Arg	Ile	Val	Glu	His	Asn
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Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly
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Ala	Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Asp	Gln	Arg	Lys	Thr	Ile
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Lys	Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe
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Tyr	Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp	Phe	Leu	Ile	Val	Asp
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Val	Ser	Leu	Val	Ser	Leu	Thr	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu
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Arg	Phe	Asp	Ile	Glu	Asp	Val	Asn	Asn	His	Thr	Asp	Cys	Leu	Lys
1385						1390					1395			
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Ala Thr	Phe Lys Gly Trp Met	Asp Ile Met Tyr	Ala Ala Val Asp
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Ser Arg	Asn Val Glu Leu Gln	Pro Lys Tyr Glu Glu	Ser Leu Tyr
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Met Tyr	Leu Tyr Phe Val Ile	Phe Ile Ile Phe Gly	Ser Phe Phe
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Thr Leu	Asn Leu Phe Ile Gly	Val Ile Ile Asp Asn	Phe Asn Gln
1475	1480		1485
Gln Lys	Lys Lys Phe Gly Gly	Gln Asp Ile Phe Met	Thr Glu Glu
1490	1495		1500
Gln Lys	Lys Tyr Tyr Asn Ala	Met Lys Lys Leu Gly	Ser Lys Lys
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Pro Gln	Lys Pro Ile Pro Arg	Pro Gly Asn Lys Phe	Gln Gly Met
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Val Phe	Asp Phe Val Thr Arg	Gln Val Phe Asp Ile	Ser Ile Met
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Ile Leu	Ile Cys Leu Asn Met	Val Thr Met Met Val	Glu Thr Asp
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1565	1570		1575
Val Phe	Ile Val Leu Phe Thr	Gly Glu Cys Val Leu	Lys Leu Ile
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Ser Leu	Arg His Tyr Tyr Phe	Thr Ile Gly Trp Asn	Ile Phe Asp
1595	1600		1605
Phe Val	Val Val Ile Leu Ser	Ile Val Gly Met Phe	Leu Ala Glu
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Leu Ile	Glu Lys Tyr Phe Val	Ser Pro Thr Leu Phe	Arg Val Ile
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Arg Leu	Ala Arg Ile Gly Arg	Ile Leu Arg Leu Ile	Lys Gly Ala

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Lys Gly Ile Arg Thr Leu	Leu Phe Ala Leu Met	Met Ser Leu Pro			
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Ala Leu Phe Asn Ile Gly	Leu Leu Leu Phe Leu	Val Met Phe Ile			
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Tyr Ala Ile Phe Gly Met	Ser Asn Phe Ala Tyr	Val Lys Arg Glu			
1685	1690	1695			
Val Gly Ile Asp Asp Met	Phe Asn Phe Glu Thr	Phe Gly Asn Ser			
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Met Ile Cys Leu Phe Gln	Ile Thr Thr Ser Ala	Gly Trp Asp Gly			
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Leu Leu Ala Pro Ile Leu	Asn Ser Lys Pro Pro	Asp Cys Asp Pro			
1730	1735	1740			
Asn Lys Val Asn Pro Gly	Ser Ser Val Lys Gly	Asp Cys Gly Asn			
1745	1750	1755			
Pro Ser Val Gly Ile Phe	Phe Phe Val Ser Tyr	Ile Ile Ile Ser			
1760	1765	1770			
Phe Leu Val Val Val Asn	Met Tyr Ile Ala Val	Ile Leu Glu Asn			
1775	1780	1785			
Phe Ser Val Ala Thr Glu	Glu Ser Ala Glu Pro	Leu Ser Glu Asp			
1790	1795	1800			
Asp Phe Glu Met Phe Tyr	Glu Val Trp Glu Lys	Phe Asp Pro Asp			
1805	1810	1815			
Ala Thr Gln Phe Met Glu	Phe Glu Lys Leu Ser	Gln Phe Ala Ala			
1820	1825	1830			
Ala Leu Glu Pro Pro Leu	Asn Leu Pro Gln Pro	Asn Lys Leu Gln			
1835	1840	1845			
Leu Ile Ala Met Asp Leu	Pro Met Val Ser Gly	Asp Arg Ile His			
1850	1855	1860			

Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys Arg Val Leu Gly Glu  
1865 1870 1875

Ser Gly Glu Met Asp Ala Leu Arg Ile Gln Met Glu Glu Arg Phe  
1880 1885 1890

Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Gln Pro Ile Thr Thr  
1895 1900 1905

Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Val Ile Ile Gln  
1910 1915 1920

Arg Ala Tyr Arg Arg His Leu Leu Lys Arg Thr Val Lys Gln Ala  
1925 1930 1935

Ser Phe Thr Tyr Asn Lys Asn Lys Ile Lys Gly Gly Ala Asn Leu  
1940 1945 1950

Leu Ile Lys Glu Asp Met Ile Ile Asp Arg Ile Asn Glu Asn Ser  
1955 1960 1965

Ile Thr Glu Lys Thr Asp Leu Thr Met Ser Thr Ala Ala Cys Pro  
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Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile  
 50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu  
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Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys Gly  
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Lys Ala Ile Phe Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr  
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Pro Phe Asn Pro Leu Arg Lys Ile Ala Ile Lys Ile Leu Val His Ser  
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Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe  
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Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr  
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Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Ile Ala Arg  
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Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp  
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Leu Asp Phe Thr Val Ile Thr Phe Ala Phe Val Thr Glu Phe Val Asn  
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Leu Gly Asn Phe Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu  
 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu  
 225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe  
 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn

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275	280	285
Glu His Ser Ile Glu Lys Asn Ile Thr Val Asn Tyr Asn Gly Thr Leu		
290	295	300
Ile Asn Glu Thr Val Phe Glu Phe Asp Trp Lys Ser Tyr Ile Gln Asp		
305	310	315
Ser Arg Tyr His Tyr Phe Leu Glu Gly Phe Leu Asp Ala Leu Leu Cys		
	325	330
		335
Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Met Cys Val		
	340	345
		350
Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr Phe		
	355	360
		365
Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Phe Trp		
	370	375
		380
Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr Met		
385	390	395
		400
Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Ile Asn		
	405	410
		415
Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn Gln Ala		
	420	425
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Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met Ile		
	435	440
		445
Glu Gln Leu Lys Lys Gln Gln Glu Ala Ala Gln Gln Ala Ala Thr Ala		
450	455	460
Thr Ala Ser Glu His Ser Arg Glu Pro Ser Ala Ala Gly Arg Leu Ser		
465	470	475
		480
Asp Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala Lys Glu		
	485	490
		495

Arg Arg Asn Arg Arg Lys Lys Arg Lys Gln Lys Glu Gln Ser Gly Gly  
500 505 510

Glu Glu Lys Asp Glu Asp Glu Phe Gln Lys Ser Glu Ser Glu Asp Ser  
515 520 525

Ile Arg Arg Lys Gly Phe Arg Phe Ser Ile Glu Gly Asn Arg Leu Thr  
530 535 540

Tyr Glu Lys Arg Tyr Ser Ser Pro His Gln Ser Leu Leu Ser Ile Arg  
545 550 555 560

Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Thr Ser Leu Phe Ser  
565 570 575

Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp Phe Ala Asp  
580 585 590

Asp Glu His Ser Thr Phe Glu Asp Asn Glu Ser Arg Arg Asp Ser Leu  
595 600 605

Phe Val Pro Arg Arg His Gly Glu Arg Arg Asn Ser Asn Leu Ser Gln  
610 615 620

Thr Ser Arg Ser Ser Arg Met Leu Ala Val Phe Pro Ala Asn Gly Lys  
625 630 635 640

Met His Ser Thr Val Asp Cys Asn Gly Val Val Ser Leu Val Gly Gly  
645 650 655

Pro Ser Val Pro Thr Ser Pro Val Gly Gln Leu Leu Pro Glu Val Ile  
660 665 670

Ile Asp Lys Pro Ala Thr Asp Asp Asn Gly Thr Thr Thr Glu Thr Glu  
675 680 685

Met Arg Lys Arg Arg Ser Ser Ser Phe His Val Ser Met Asp Phe Leu  
690 695 700

Glu Asp Pro Ser Gln Arg Gln Arg Ala Met Ser Ile Ala Ser Ile Leu  
705 710 715 720

Thr	Asn	Thr	Val	Glu	Glu	Leu	Glu	Glu	Ser	Arg	Gln	Lys	Cys	Pro	Pro	725	730	735
Cys	Trp	Tyr	Lys	Phe	Ser	Asn	Ile	Phe	Leu	Ile	Trp	Asp	Cys	Ser	Pro	740	745	750
Tyr	Trp	Leu	Lys	Val	Lys	His	Val	Val	Asn	Leu	Val	Val	Met	Asp	Pro	755	760	765
Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys	Ile	Val	Leu	Asn	Thr	Leu	Phe	770	775	780
Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr	Asp	His	Phe	Asn	Asn	Val	Leu	785	790	795
Thr	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly	Ile	Phe	Thr	Ala	Glu	Met	Phe	805	810	815
Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr	Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	820	825	830
Asn	Ile	Phe	Asp	Gly	Phe	Ile	Val	Thr	Leu	Ser	Leu	Val	Glu	Leu	Gly	835	840	845
Leu	Ala	Asn	Val	Glu	Gly	Leu	Ser	Val	Leu	Arg	Ser	Phe	Arg	Leu	Leu	850	855	860
Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp	Pro	Thr	Leu	Asn	Met	Leu	Ile	865	870	875
Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala	Leu	Gly	Asn	Leu	Thr	Leu	Val	885	890	895
Leu	Ala	Ile	Ile	Val	Phe	Ile	Phe	Ala	Val	Val	Gly	Met	Gln	Leu	Phe	900	905	910
Gly	Lys	Ser	Tyr	Lys	Asp	Cys	Val	Cys	Lys	Ile	Ala	Ser	Asp	Cys	Gln	915	920	925
Leu	Pro	Arg	Trp	His	Met	Asn	Asp	Phe	Phe	His	Ser	Phe	Leu	Ile	Val	930	935	940

Phe Arg Val Leu Cys Gly Glu Trp Ile Glu Thr Met Trp Asp Cys Met  
945 950 955 960

Glu Val Ala Gly Gln Ala Met Cys Leu Thr Val Phe Met Met Val Met  
965 970 975

Val Ile Gly Asn Leu Val Val Leu Asn Leu Phe Leu Ala Leu Leu Leu  
980 985 990

Ser Ser Phe Ser Ala Asp Asn Leu Ala Ala Thr Asp Asp Asp Asn Glu  
995 1000 1005

Met Asn Asn Leu Gln Ile Ala Val Asp Arg Met His Lys Gly Val  
1010 1015 1020

Ala Tyr Val Lys Arg Lys Ile Tyr Glu Phe Ile Gln Gln Ser Phe  
1025 1030 1035

Ile Arg Lys Gln Lys Ile Leu Asp Glu Ile Lys Pro Leu Asp Asp  
1040 1045 1050

Leu Asn Asn Lys Lys Asp Ser Cys Met Ser Asn His Thr Ala Glu  
1055 1060 1065

Ile Gly Lys Asp Leu Asp Tyr Leu Lys Asp Val Asn Gly Thr Thr  
1070 1075 1080

Ser Gly Ile Gly Thr Gly Ser Ser Val Glu Lys Tyr Ile Ile Asp  
1085 1090 1095

Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val  
1100 1105 1110

Thr Val Pro Ile Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn  
1115 1120 1125

Thr Glu Asp Phe Ser Ser Glu Ser Asp Leu Glu Glu Ser Lys Glu  
1130 1135 1140

Lys Leu Asn Glu Ser Ser Ser Ser Ser Glu Gly Ser Thr Val Asp  
1145 1150 1155

Ile Gly Ala Pro Val Glu Glu Gln Pro Val Val Glu Pro Glu Glu

1160		1165		1170
Thr Leu Glu Pro Glu Ala Cys Phe Thr Glu Gly Cys Val Gln Arg				
1175		1180		1185
Phe Lys Cys Cys Gln Ile Asn Val Glu Glu Gly Arg Gly Lys Gln				
1190		1195		1200
Trp Trp Asn Leu Arg Arg Thr Cys Phe Arg Ile Val Glu His Asn				
1205		1210		1215
Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu Leu Ser Ser Gly				
1220		1225		1230
Ala Leu Ala Phe Glu Asp Ile Tyr Ile Asp Gln Arg Lys Thr Ile				
1235		1240		1245
Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr Ile Phe				
1250		1255		1260
Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Tyr Gln Thr				
1265		1270		1275
Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp				
1280		1285		1290
Val Ser Leu Val Ser Leu Thr Ala Asn Ala Leu Gly Tyr Ser Glu				
1295		1300		1305
Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro				
1310		1315		1320
Leu Arg Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn				
1325		1330		1335
Ala Leu Leu Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val				
1340		1345		1350
Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu				
1355		1360		1365
Phe Ala Gly Lys Phe Tyr His Cys Ile Asn Thr Thr Thr Gly Asp				
1370		1375		1380

Arg Phe Asp Ile Glu Asp Val	Asn Asn His Thr Asp	Cys Leu Lys
1385	1390	1395
Leu Ile Glu Arg Asn Glu Thr	Ala Arg Trp Lys Asn	Val Lys Val
1400	1405	1410
Asn Phe Asp Asn Val Gly Phe	Gly Tyr Leu Ser Leu	Leu Gln Val
1415	1420	1425
Ala Thr Phe Lys Gly Trp Met	Asp Ile Met Tyr Ala	Ala Val Asp
1430	1435	1440
Ser Arg Asn Val Glu Leu Gln	Pro Lys Tyr Glu Glu	Ser Leu Tyr
1445	1450	1455
Met Tyr Leu Tyr Phe Val Ile	Phe Ile Ile Phe Gly	Ser Phe Phe
1460	1465	1470
Thr Leu Asn Leu Phe Ile Gly	Val Ile Ile Asp Asn	Phe Asn Gln
1475	1480	1485
Gln Lys Lys Lys Phe Gly Gly	Gln Asp Ile Phe Met	Thr Glu Glu
1490	1495	1500
Gln Lys Lys Tyr Tyr Asn Ala	Met Lys Lys Leu Gly	Ser Lys Lys
1505	1510	1515
Pro Gln Lys Pro Ile Pro Arg	Pro Gly Asn Lys Phe	Gln Gly Met
1520	1525	1530
Val Phe Asp Phe Val Thr Arg	Gln Val Phe Asp Ile	Ser Ile Met
1535	1540	1545
Ile Leu Ile Cys Leu Asn Met	Val Thr Met Met Val	Glu Thr Asp
1550	1555	1560
Asp Gln Ser Glu Tyr Val Thr	Thr Ile Leu Ser Arg	Ile Asn Leu
1565	1570	1575
Val Phe Ile Val Leu Phe Thr	Gly Glu Cys Val Leu	Lys Leu Ile
1580	1585	1590

Ser	Leu	Arg	His	Tyr	Tyr	Phe	Thr	Ile	Gly	Trp	Asn	Ile	Phe	Asp
1595						1600					1605			
Phe	Val	Val	Val	Ile	Leu	Ser	Ile	Val	Gly	Met	Phe	Leu	Ala	Glu
1610						1615					1620			
Leu	Ile	Glu	Lys	Tyr	Phe	Val	Ser	Pro	Thr	Leu	Phe	Arg	Val	Ile
1625						1630					1635			
Arg	Leu	Ala	Arg	Ile	Gly	Arg	Ile	Leu	Arg	Leu	Ile	Lys	Gly	Ala
1640						1645					1650			
Lys	Gly	Ile	Arg	Thr	Leu	Leu	Phe	Ala	Leu	Met	Met	Ser	Leu	Pro
1655						1660					1665			
Ala	Leu	Phe	Asn	Ile	Gly	Leu	Leu	Leu	Phe	Leu	Val	Met	Phe	Ile
1670						1675					1680			
Tyr	Ala	Ile	Phe	Gly	Met	Ser	Asn	Phe	Ala	Tyr	Val	Lys	Arg	Glu
1685						1690					1695			
Val	Gly	Ile	Asp	Asp	Met	Phe	Asn	Phe	Glu	Thr	Phe	Gly	Asn	Ser
1700						1705					1710			
Met	Ile	Cys	Leu	Phe	Gln	Ile	Thr	Thr	Ser	Ala	Gly	Trp	Asp	Gly
1715						1720					1725			
Leu	Leu	Ala	Pro	Ile	Leu	Asn	Ser	Lys	Pro	Pro	Asp	Cys	Asp	Pro
1730						1735					1740			
Asn	Lys	Val	Asn	Pro	Gly	Ser	Ser	Val	Lys	Gly	Asp	Cys	Gly	Asn
1745						1750					1755			
Pro	Ser	Val	Gly	Ile	Phe	Phe	Phe	Val	Ser	Tyr	Ile	Ile	Ile	Ser
1760						1765					1770			
Phe	Leu	Val	Val	Val	Asn	Met	Tyr	Ile	Ala	Val	Ile	Leu	Glu	Asn
1775						1780					1785			
Phe	Ser	Val	Ala	Thr	Glu	Glu	Ser	Ala	Glu	Pro	Leu	Ser	Glu	Asp
1790						1795					1800			



Asp	Phe	Glu	Met	Phe	Tyr	Glu	Val	Trp	Glu	Lys	Phe	Asp	Pro	Asp
1805						1810					1815			
Ala	Thr	Gln	Phe	Met	Glu	Phe	Glu	Lys	Leu	Ser	Gln	Phe	Ala	Ala
1820						1825					1830			
Ala	Leu	Glu	Pro	Pro	Leu	Asn	Leu	Pro	Gln	Pro	Asn	Lys	Leu	Gln
1835						1840					1845			
Leu	Ile	Ala	Met	Asp	Leu	Pro	Met	Val	Ser	Gly	Asp	Arg	Ile	His
1850						1855					1860			
Cys	Leu	Asp	Ile	Leu	Phe	Ala	Phe	Thr	Lys	Arg	Val	Leu	Gly	Glu
1865						1870					1875			
Ser	Gly	Glu	Met	Asp	Ala	Leu	Arg	Ile	Gln	Met	Glu	Glu	Arg	Phe
1880						1885					1890			
Met	Ala	Ser	Asn	Pro	Ser	Lys	Val	Ser	Tyr	Gln	Pro	Ile	Thr	Thr
1895						1900					1905			
Thr	Leu	Lys	Arg	Lys	Gln	Glu	Glu	Val	Ser	Ala	Val	Ile	Ile	Gln
1910						1915					1920			
Arg	Ala	Tyr	Arg	Arg	His	Leu	Leu	Lys	Arg	Thr	Val	Lys	Gln	Ala
1925						1930					1935			
Ser	Phe	Thr	Tyr	Asn	Lys	Asn	Lys	Ile	Lys	Gly	Gly	Ala	Asn	Leu
1940						1945					1950			
Leu	Ile	Lys	Glu	Asp	Met	Ile	Ile	Asp	Arg	Ile	Asn	Glu	Asn	Ser
1955						1960					1965			
Ile	Thr	Glu	Lys	Thr	Asp	Leu	Thr	Met	Ser	Thr	Ala	Ala	Cys	Pro
1970						1975					1980			
Pro	Ser	Tyr	Asp	Arg	Val	Thr	Lys	Pro	Ile	Val	Glu	Lys	His	Glu
1985						1990					1995			
Gln	Glu	Gly	Lys	Asp	Glu	Lys	Ala	Lys	Gly	Lys				
2000						2005								

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<213> Homo sapiens

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gcaaggagaa gcaatactgg gagattacag agaagaaagg aaaaaaggct gagagaaaag 180  
aggttgagga agaaatcata aatctggatt gtgagaaagt gtttaatat tagccactag 240  
atggcgatgt aatgtaaggt gctgtcctga cttttttttt ttttttttga aacaagctat 300  
ttgctgattt gtattaggtt ccatagagtg aggcgaggat gaagccgaga agatactgca 360  
gaggctctctg gtgcatgtgt gtatgtgtgc gtttgtgtgt gtttgtgtgt ctgtgtgttc 420  
tgccccagtg agactgcagc ccttgtaaat actttgacac cttttgcaag aaggaatctg 480  
aacaattgca actgaaggca cattgttatc atctcgtctt tgggtgatgc tgttcctcac 540  
tgcagatgga taattttcct tttaatcagg taagccatct aattgtttca tcttgatttt 600  
aagtttatcc attccagtta ttcctttgga aaaagagtcc atggaaattc agtttgggca 660  
gagcaggaag tccatttttg tatgtgtatt cagaccaact gtccccctcc tccctctcct 720  
cctcttcttg tccccctccc cgcgcctcc tctctcaacc ttccatgaac tgaaatcagg 780  
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<211> 483  
<212> DNA  
<213> Homo sapiens

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gaataaatgg taattaaaat gtgcaggatg acaagatgga gcaaacagtg cttgtaccac 120  
caggacctga cagcttcaac ttcttcacca gagaatctct tgcggctatt gaaagacgca 180  
ttgcagaaga aaaggcaaag aatcccaaac cagacaaaaa aagatgacga cgaaaaatgg 240  
cccaaagcaa atagtgactt ggaagctgga aagaaccttc catttattta tggagacatt 300  
cctccagaga tgggtgcaga gcccctggag gacctggacc cctactatat caataagaaa 360  
gtgagtgttt tttttatcag gcatattttt gctgctaatt gcctactgca ttccttggac 420  
tgttgtagca ccaacacatg ccaatagcac aaatctagta tctctgttag aatgaacaca 480

ttt

483

<210> 7  
<211> 497  
<212> DNA  
<213> Homo sapiens

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tggttttctca ttttaacttta caataattta ttatgacaag taacagaaaag tagataacag 120  
agtttaagtg gtttatactt tcatacttct atgttggtgtt cctgtcttac agacttttat 180  
agtattgaat aaaggaagg ccatcttccg gttcagtgcc acctctgccc tgtacatttt 240  
aactcccttc aatcctctta ggaaaatagc tattaagatt ttggtacatt catatccttt 300  
ttcaagtgat taatattaac tatttgtaca tgatctgtaa gcactttata gctaaatata 360  
aaattaagtt gggaaatgtc catattatat aggtttcatc actctcattt tgcattcttg 420  
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tttaacattt tatatat 497

<210> 8  
<211> 501  
<212> DNA  
<213> Homo sapiens

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catttttacac atgaagaaat tgaaatgtaa ggagattaga agacttgccc acaatgcatt 120  
tatccctgaa ttttggttaa gctgcagttt gggcttttca atgttagctt tttgtaatat 180  
aacacttgga ttttgatttt cttttgtgtg ttccttaaca ataacctaca ttattcagca 240  
tgctaattat gtgcactatt ttgacaaact gtgtgtttat gacaatgagt aaccctcctg 300  
attggacaaa gaatgtagag taagttcaac ttatatTTTT aataacatat atacattygg 360  
gattytgaaa ctgtgtctta atgtagtctt aaaataaaac tgaagagcat tttattaaag 420  
tcattcctag acaaaattac gcagcaagag gacaatgctc attggccctc aggctgctg 480  
gcgttatact gattatcact c 501

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<211> 563  
<212> DNA

<213> Homo sapiens

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aaaatccatc tgcttagttt tcttttttag tatttatcta ttccactgat ggagtgataa	180
gaaattggta tgctatgaaa aaacactggt actttatcaa attttttgga tgcttgtttt	240
cagatacacc ttcacaggaa tatatacttt tgaatcactt ataaaaatta ttgcaagggg	300
attctgttta gaagatttta ctttccttcg ggatccatgg aactggctcg atttcactgt	360
cattacattt gcgtaagtgc ctttbytga aacttaagag agaacatagt ttggttttcc	420
atcagtgctt atgcttttaa gaatagggtt gctttacctg tagaatattt ttgtgtgatt	480
tatacattca aactctggat ttcaatttag cacaacaaag gtctaagtgg aatttcacta	540
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<210> 10

<211> 253

<212> DNA

<213> Homo sapiens

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agtcttgaga gctttgaaaa ctatttcggt aattccaggt aagaagtgat tagagtaaag	180
gataggctct ttgtacctac agctttttct ttgtgtcctg tttttgtgtt tgtgtgtgaa	240
ctcccgccta cag	253

<210> 11

<211> 340

<212> DNA

<213> Homo sapiens

<400> 11

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ggcaatgtct cggcattgag aacattcaga gttctccgag cattgaagac gatttcagtc	180
attccagggt agagcaaggt tagataatga gacggaccca tcatgtgatt cagcatcctt	240
ctctgcttga cattcagttt tacagaaaat caggaatcat aagactaggt gttcaaagaa	300

atgattatta tgtagacat agcttatcag cctggagtta 340

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<212> DNA  
<213> Homo sapiens

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gagccctgat ccagtctgtg aagaagctct cagatgtaat gatcctgact gtgttctgtc 120  
tgagcgtatt tgctctaatt gggctgcagc tgttcatggg caacctgagg aataaatgta 180  
tacaatggcc tcccaccaat gcttccttgg aggaacatag tatagaaaag aatataactg 240  
tgaattataa tggtagactt ataaatgaaa ctgtccttga gtttgactgg aagtcataata 300  
ttcaagattc aagtaagaat tattgttatg tacatttcct taaaagtag aattggattg 360  
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<210> 13  
<211> 266  
<212> DNA  
<213> Homo sapiens

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cgactttctt ttttcaaaca ggatatcatt atttcttgga gggtttttta gatgcactac 180  
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tgtacacaat acatatgtgt atcttt 266

<210> 14  
<211> 604  
<212> DNA  
<213> Homo sapiens

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gaaatagatt agttacttat ttgtcaaact tttattttga aataccaaat ctttctgact 180  
aggcaatatc atagcatagt atcagagtaa aaaggcagca gaacgacttg taatactttc 240  
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cccaattatg gctacacaag ctttgatacc ttcagttggg cttttttgtc cttgtttcga	360
ctaattgactc aggacttctg ggaaaatctt tatcaactgg tgagaactaa agagccacac	420
tctccattta agtaaaagta tacaagaaaa ccaattgagt tatgaaatta aaaccggatg	480
ataatatagt agaaagagca gaacttgaca cgagacttga gttcctctat cctattgatt	540
ataacacata ctgagcagag tgatgccaa gattgcaatt ctctcccatt tcttcttggc	600
tcaa	604

<210> 15  
 <211> 378  
 <212> DNA  
 <213> Homo sapiens

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atattgggaa ataattctga tatttttgtt tgcagacatt acgtgctgct gggaaaacgt	120
acatgatatt ttttgtattg gtcattttct tgggctcatt ctacctaata aatttgatcc	180
tggctgtggt ggccatggcc tacgaggaac agaatcaggc caccttgga gaagcagaac	240
agaaagaggc cgaatttcag cagatgattg aacagcttaa aaagcaacag gaggcagctc	300
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tagtctagag cgtgtgat	378

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 <211> 845  
 <212> DNA  
 <213> Homo sapiens

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cataataaat gttaccatgg agcaaaactaa attatctcca aaagccttca ttaggtagaa	180
agaaaaaaaa aatctcctct tatacttgca gagaatcttc tctgtgagat gatcttcagt	240
cagttcaata tattttttta aagccatgca aatacttcag ccctttcaaa gaaagataca	300
gtctcttcag gtgctatggt aaaatcattt ctcttcaata tagcaggcag caacggcaac	360
tgccctcagaa cattccagag agcccagtgc agcaggcagg ctctcagaca gctcatctga	420
agcctctaag ttgagttcca agagtgctaa ggaaagaaga aatcggagga agaaaagaaa	480
acagaaagag cagtctggtg gggaagagaa agatgaggat gaattccaaa aatctgaattc	540

tgaggacagc atcaggaggw aagggttttcg cttctccatt gaagggaacc ggttgacata	600
tgaaaagagg tactcctccc cacaccaggt atggcactgc tgagtttact gatgcatggg	660
tgaaaattaa aacatgggag agagggggag atttagaaaa tggactcagg aatttttatt	720
aactgaatca accactgttg tgttatattt aaacccatcc cttcttcaca tagttatgca	780
aaaactttac tccacagata tgtaagtcta cagctcggtg tagttaagat aacaccaagt	840
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<210> 17  
 <211> 965  
 <212> DNA  
 <213> Homo sapiens

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taatccaag ggctagaaac tttcttttat caaggtaatt taatttaatg tgaatgcaca	180
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gattt	965

<210> 18  
 <211> 641

<212> DNA  
<213> Homo sapiens

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atgatacaat aagtcagaaa tatctgccat caccaattga atatgaaagt gcatgatgca 180  
tgtgtttcat gaaattcact gtgtcaccat ttggttggtt gcttgtcata ttgctcaaata 240  
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aaagagaagg tcaagttctt tccacgtttc catggacttt ctagaagatc cttcccaaa 360  
gcaacgagca atgagtatag ccagcattct aacaaatata gtagaagggt ggtaacaaat 420  
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<210> 19  
<211> 818  
<212> DNA  
<213> Homo sapiens

<400> 19  
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ataaccttgg gaggtttaga gtaaaactgta atttttttta caagtacaaa aaagggtgtc 180  
tctgtaacaa aaatgtgttg attactgaaa ataagtttag tggatatgaa ataaatgtgt 240  
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gactgttctc catattgggt aaaagtgaac catgttgtca acctggttgt gatggacca 420  
tttgttgacc tggccatcac catctgtatt gtcttaataa ctcttttcat ggccatggag 480  
cactatccaa tgacggacca tttcaataat gtgcttacag taggaaactt ggtaagcata 540  
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tgtgtatagc agtctttcaa ccaccttcca tgcttcttgg cccctgcaaa atcgcaatta 660  
tatttagctg gctatactct acttttttgc caaaaataat cacccttaat gtgctcacia 720



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ttttcaggat ccagaagtag ctcatagatt aagaacat	818

<210> 20  
 <211> 645  
 <212> DNA  
 <213> Homo sapiens

<400> 20	
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ttatctactt cgcgtttcca caaggataaa attaaataat gtatatgawa gtctttcatc	120
aactacaaat tgccatacaa atttaagtta gtaatagaat cattgtggga aaatagcata	180
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agtttttctg taacatttgc attgtcaaaa acttttcccta catgggaata attctcaatt	600
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<210> 21  
 <211> 829  
 <212> DNA  
 <213> Homo sapiens

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aacgttaaata atgctaataa agatcatcgg caattccgtg ggggctctgg gaaatttaac	180
cctcgtcttg gccatcatcg tcttcatttt tgccgtggtc ggcattgcagc tctttggtaa	240
aagctacaaa gattgtgtct gcaagatcgc cagtgattgt caactccac gctggcacat	300
gaatgacttc ttocactcck hctgattgt gttccgcgtg ctgtgtgggg agtggataga	360
gaccatgtgg gactgtatgg aggttgetgg tcaagccatg tgccttactg tcttcatgat	420
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aaaaacaaac tatgattatt ggttttaaag tccattacct tggatatatt atcacttta	660
caacacagca atatabcagt gccctgcat tttttatacc aaattctatt ttgtcagtca	720
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atgtgctggg accattttat aaattcagag ccaaggaaga gagaagtct	829

<210> 22  
 <211> 909  
 <212> DNA  
 <213> Homo sapiens

<400> 22	
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agaaatcatg tctttgtcca aggatgtgct attgagccag tcacaaattc agatcaccca	180
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 <212> DNA  
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 <223> n = a, c, t or g

<220>  
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 <223> N = a, c, t or g

<220>  
 <221> misc\_feature  
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 <223> N = a, c, t or g

<220>  
 <221> misc\_feature  
 <222> (513)..(513)  
 <223> n = a, c, t or g

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 aaattcatag taataatcct tcttggcagg caacttatta ccaaaattaa ggactttact 180  
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 aacccgaagc ttgtttcact gaaggtaaag aaaagaatcc taatgttaat ctttcatttg 360  
 gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420  
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 agtgtcatgc tttgattata tctgccaat atntgg 516

<210> 24  
 <211> 640  
 <212> DNA  
 <213> Homo sapiens

<400> 24  
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 gacaaggaca ttgctaaagg atattatgga agcagagaca ctttatctac ttttatttca 180  
 acactttctg caggctgtgt acaaagattc aagtgttgct aaatcaatgt ggaagaaggc 240

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<210> 25  
 <211> 607  
 <212> DNA  
 <213> Homo sapiens

<400> 25	
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ttgcgaggaa aaaaaaaag taacagtaac tactgtttct ctgccctcct attccaatga	180
aatgtcatat gcatatgatt aattttttta atagcttatg gagtataatt atttttgaaa	240
gctaataatg tgtaacattt tctttatagg catttgaaga tatatatatt gaycagcgaa	300
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<210> 26  
 <211> 336  
 <212> DNA  
 <213> Homo sapiens

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ttactcagaa cttggagcct atcaatctct caggacacta agagctctga gacctctaag	180
agccttatct cgatttgaag ggatgagggt aagaaaaatg aaagaacctg aagtattgta	240

tatagccaaa attaaactaa attaaattta gaaaaaagga aaaatgtatg catgcaaaag	300
gaatggcaaa ttcttgcaaa atgctcttta ttgttt	336

<210> 27  
 <211> 677  
 <212> DNA  
 <213> Homo sapiens

<400> 27	
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aaagaatgga aagaccagag attactaggg gaattttttt tctttattaa cagataagaa	180
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aataacaaaa taatgacata catctattat ttagttccta agaaaaagta tatatttctt	600
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<210> 28  
 <211> 457  
 <212> DNA  
 <213> Homo sapiens

<400> 28	
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457

<210> 29  
<211> 379  
<212> DNA  
<213> Homo sapiens

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<223> n = a, c, t or g

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<210> 30  
<211> 393  
<212> DNA  
<213> Homo sapiens

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<210> 31  
<211> 539  
<212> DNA  
<213> Homo sapiens

<400> 31

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<210> 32  
 <211> 3403  
 <212> DNA  
 <213> Homo sapiens

<400> 32	
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Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys  
85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu  
100 105 110

Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His  
115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val  
130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr  
145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala  
165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn  
180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val  
195 200 205

Asp Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala  
210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala  
225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val  
245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly  
260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe  
275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly  
290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile

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Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu						
	325			330		335
Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile						
	340			345		350
Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp						
	355			360		365
Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp						
	370			375		380
Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr						
385		390		395		400
Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu						
	405			410		415
Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn						
	420			425		430
Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln						
	435			440		445
Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala						
	450			455		460
Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile						
465		470		475		480
Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys						
	485			490		495
Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu						
	500			505		510
Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser						
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Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser						
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Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu  
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Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser  
 565 570 575

Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp  
 580 585 590

Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg  
 595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn  
 610 615 620

Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met  
 625 630 635 640

Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu  
 645 650 655

Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu  
 660 665 670

Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr  
 675 680 685

His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala  
 690 695 700

Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu  
 705 710 715 720

Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Lys Phe Ala Asn Met Cys  
 725 730 735

Leu Ile Trp Asp Cys Cys Lys Pro Trp Leu Lys Val Lys His Leu Val  
 740 745 750

Asn Leu Val Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys  
 755 760 765

Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr  
770 775 780

Glu Gln Phe Ser Ser Val Leu Ser Val Gly Asn Leu Val Phe Thr Gly  
785 790 795 800

Ile Phe Thr Ala Glu Met Phe Leu Lys Ile Ile Ala Met Asp Pro Tyr  
805 810 815

Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Phe Ile Val Ser  
820 825 830

Leu Ser Leu Met Glu Leu Gly Leu Ala Asn Val Glu Gly Leu Ser Val  
835 840 845

Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp  
850 855 860

Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala  
865 870 875 880

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala  
885 890 895

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys  
900 905 910

Lys Ile Ser Asn Asp Cys Glu Leu Pro Arg Trp His Met His Asp Phe  
915 920 925

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile  
930 935 940

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu  
1010 1015 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu  
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Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile  
1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu  
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Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu  
1070 1075 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn  
1085 1090 1095

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp  
1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met  
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Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly  
1130 1135 1140

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu  
1145 1150 1155

Val Glu Pro Glu Glu Ser Leu Glu Pro Glu Ala Cys Phe Thr Glu  
1160 1165 1170

Asp Cys Val Arg Lys Phe Lys Cys Cys Gln Ile Ser Ile Glu Glu  
1175 1180 1185

Gly Lys Gly Lys Leu Trp Trp Asn Leu Arg Lys Thr Cys Tyr Lys  
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Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile



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Leu Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu				
1220		1225		1230
Gln Arg Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val				
1235		1240		1245
Phe Thr Tyr Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala				
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Tyr Gly Phe Gln Val Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp				
1265		1270		1275
Phe Leu Ile Val Asp Val Ser Leu Val Ser Leu Thr Ala Asn Ala				
1280		1285		1290
Leu Gly Tyr Ser Glu Leu Gly Ala Ile Lys Ser Leu Arg Thr Leu				
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Arg Ala Leu Arg Pro Leu Arg Ala Leu Ser Arg Phe Glu Gly Met				
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Arg Ala Val Val Asn Ala Leu Leu Gly Ala Ile Pro Ser Ile Met				
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Asn Val Leu Leu Val Cys Leu Ile Phe Trp Leu Ile Phe Ser Ile				
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Met Gly Val Asn Leu Phe Ala Gly Lys Phe Tyr His Cys Ile Asn				
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Tyr Thr Thr Gly Glu Met Phe Asp Val Ser Val Val Asn Asn Tyr				
1370		1375		1380
Ser Glu Cys Lys Ala Leu Ile Glu Ser Asn Gln Thr Ala Arg Trp				
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Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Leu Gly Tyr Leu				
1400		1405		1410
Ser Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met				
1415		1420		1425

Tyr	Ala	Ala	Val	Asp	Ser	Arg	Asn	Val	Glu	Leu	Gln	Pro	Lys	Tyr
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Glu	Asp	Asn	Leu	Tyr	Met	Tyr	Leu	Tyr	Phe	Val	Ile	Phe	Ile	Ile
1445						1450					1455			
Phe	Gly	Ser	Phe	Phe	Thr	Leu	Asn	Leu	Phe	Ile	Gly	Val	Ile	Ile
1460						1465					1470			
Asp	Asn	Phe	Asn	Gln	Gln	Lys	Lys	Lys	Phe	Gly	Gly	Gln	Asp	Ile
1475						1480					1485			
Phe	Met	Thr	Glu	Glu	Gln	Lys	Lys	Tyr	Tyr	Asn	Ala	Met	Lys	Lys
1490						1495					1500			
Leu	Gly	Ser	Lys	Lys	Pro	Gln	Lys	Pro	Ile	Pro	Arg	Pro	Ala	Asn
1505						1510					1515			
Lys	Phe	Gln	Gly	Met	Val	Phe	Asp	Phe	Val	Thr	Lys	Gln	Val	Phe
1520						1525					1530			
Asp	Ile	Ser	Ile	Met	Ile	Leu	Ile	Cys	Leu	Asn	Met	Val	Thr	Met
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Met	Val	Glu	Thr	Asp	Asp	Gln	Ser	Gln	Glu	Met	Thr	Asn	Ile	Leu
1550						1555					1560			
Tyr	Trp	Ile	Asn	Leu	Val	Phe	Ile	Val	Leu	Phe	Thr	Gly	Glu	Cys
1565						1570					1575			
Val	Leu	Lys	Leu	Ile	Ser	Leu	Arg	Tyr	Tyr	Tyr	Phe	Thr	Ile	Gly
1580						1585					1590			
Trp	Asn	Ile	Phe	Asp	Phe	Val	Val	Val	Ile	Leu	Ser	Ile	Val	Gly
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Met	Phe	Leu	Ala	Glu	Leu	Ile	Glu	Lys	Tyr	Phe	Val	Ser	Pro	Thr
1610						1615					1620			
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1625						1630					1635			

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Met Met	Ser Leu	Pro Ala	Leu Phe	Asn Ile	Gly Leu	Leu Leu	Phe
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Leu Val	Met Phe	Ile Tyr	Ala Ile	Phe Gly	Met Ser	Asn Phe	Ala
1670			1675		1680		
Tyr Val	Lys Arg	Glu Val	Gly Ile	Asp Asp	Met Phe	Asn Phe	Glu
1685			1690		1695		
Thr Phe	Gly Asn	Ser Met	Ile Cys	Leu Phe	Gln Ile	Thr Thr	Ser
1700			1705		1710		
Ala Gly	Trp Asp	Gly Leu	Leu Ala	Pro Ile	Leu Asn	Ser Gly	Pro
1715			1720		1725		
Pro Asp	Cys Asp	Pro Asp	Lys Asp	His Pro	Gly Ser	Ser Val	Lys
1730			1735		1740		
Gly Asp	Cys Gly	Asn Pro	Ser Val	Gly Ile	Phe Phe	Phe Val	Ser
1745			1750		1755		
Tyr Ile	Ile Ile	Ser Phe	Leu Val	Val Val	Asn Met	Tyr Ile	Ala
1760			1765		1770		
Val Ile	Leu Glu	Asn Phe	Ser Val	Ala Thr	Glu Glu	Ser Ala	Glu
1775			1780		1785		
Pro Leu	Ser Glu	Asp Asp	Phe Glu	Met Phe	Tyr Glu	Val Trp	Glu
1790			1795		1800		
Lys Phe	Asp Pro	Asp Ala	Thr Gln	Phe Ile	Glu Phe	Ala Lys	Leu
1805			1810		1815		
Ser Asp	Phe Ala	Asp Ala	Leu Asp	Pro Pro	Leu Leu	Ile Ala	Lys
1820			1825		1830		
Pro Asn	Lys Val	Gln Leu	Ile Ala	Met Asp	Leu Pro	Met Val	Ser
1835			1840		1845		

Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr Lys  
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Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln  
 1865 1870 1875

Met Glu Glu Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr  
 1880 1885 1890

Glu Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser  
 1895 1900 1905

Ala Ile Ile Ile Gln Arg Ala Tyr Arg Arg Tyr Leu Leu Lys Gln  
 1910 1915 1920

Lys Val Lys Lys Val Ser Ser Ile Tyr Lys Lys Asp Lys Gly Lys  
 1925 1930 1935

Glu Cys Asp Gly Thr Pro Ile Lys Glu Asp Thr Leu Ile Asp Lys  
 1940 1945 1950

Leu Asn Glu Asn Ser Thr Pro Glu Lys Thr Asp Met Thr Pro Ser  
 1955 1960 1965

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35 40 45

Gly Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Ser Leu Pro Phe  
50 55 60

Ile Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Val Pro Leu Glu Asp  
65 70 75 80

Leu Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Leu Asn Lys  
85 90 95

Gly Lys Ala Ile Ser Arg Phe Ser Ala Thr Pro Ala Leu Tyr Ile Leu  
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Thr Pro Phe Asn Pro Ile Arg Lys Leu Ala Ile Lys Ile Leu Val His  
115 120 125

Ser Leu Phe Asn Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val  
130 135 140

Phe Met Thr Met Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr  
145 150 155 160

Thr Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala  
165 170 175

Arg Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn  
180 185 190

Trp Leu Asp Phe Thr Val Ile Thr Phe Ala Tyr Val Thr Glu Phe Val  
195 200 205

Asn Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala  
210 215 220

Leu Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala  
225 230 235 240

Leu Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val  
245 250 255

Phe Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly  
260 265 270

Asn Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Asp Asn Ser Ser Phe  
275 280 285

Glu Ile Asn Ile Thr Ser Phe Phe Asn Asn Ser Leu Asp Gly Asn Gly  
290 295 300

Thr Thr Phe Asn Arg Thr Val Ser Ile Phe Asn Trp Asp Glu Tyr Ile  
305 310 315 320

Glu Asp Lys Ser His Phe Tyr Phe Leu Glu Gly Gln Asn Asp Ala Leu  
325 330 335

Leu Cys Gly Asn Ser Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile  
340 345 350

Cys Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp  
355 360 365

Thr Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp  
370 375 380

Phe Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr  
385 390 395 400

Tyr Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu  
405 410 415

Ile Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Glu Gln Asn  
420 425 430

Gln Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln  
435 440 445

Met Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Ala Ala  
450 455 460

Ala Ala Ala Ser Ala Glu Ser Arg Asp Phe Ser Gly Ala Gly Gly Ile  
465 470 475 480

Gly Val Phe Ser Glu Ser Ser Ser Val Ala Ser Lys Leu Ser Ser Lys  
485 490 495

Ser Glu Lys Glu Leu Lys Asn Arg Arg Lys Lys Lys Lys Gln Lys Glu  
500 505 510

Gln Ser Gly Glu Glu Glu Lys Asn Asp Arg Val Leu Lys Ser Glu Ser  
515 520 525

Glu Asp Ser Ile Arg Arg Lys Gly Phe Arg Phe Ser Leu Glu Gly Ser  
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Arg Leu Thr Tyr Glu Lys Arg Phe Ser Ser Pro His Gln Ser Leu Leu  
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Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Arg Ala Ser  
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Leu Phe Ser Phe Arg Gly Arg Ala Lys Asp Ile Gly Ser Glu Asn Asp  
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Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Asn Asp Ser Arg Arg  
595 600 605

Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg His Ser Asn  
610 615 620

Val Ser Gln Ala Ser Arg Ala Ser Arg Val Leu Pro Ile Leu Pro Met  
625 630 635 640

Asn Gly Lys Met His Ser Ala Val Asp Cys Asn Gly Val Val Ser Leu  
645 650 655

Val Gly Gly Pro Ser Thr Leu Thr Ser Ala Gly Gln Leu Leu Pro Glu  
660 665 670

Gly Thr Thr Thr Glu Thr Glu Ile Arg Lys Arg Arg Ser Ser Ser Tyr  
675 680 685

His Val Ser Met Asp Leu Leu Glu Asp Pro Thr Ser Arg Gln Arg Ala  
690 695 700

Met Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu

705						710						715						720
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Lys	Phe	Ala	Asn	Met	Cys			
				725					730					735				
Leu	Ile	Trp	Asp	Cys	Cys	Lys	Pro	Trp	Leu	Lys	Val	Lys	His	Leu	Val			
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Asn	Leu	Val	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys			
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Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr			
	770					775					780							
Glu	Gln	Phe	Ser	Ser	Val	Leu	Ser	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly			
785					790					795					800			
Ile	Phe	Thr	Ala	Glu	Met	Phe	Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr			
			805						810					815				
Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	Asn	Ile	Phe	Asp	Gly	Phe	Ile	Val	Ser			
			820					825					830					
Leu	Ser	Leu	Met	Glu	Leu	Gly	Leu	Ala	Asn	Val	Glu	Gly	Leu	Ser	Val			
		835					840					845						
Leu	Arg	Ser	Phe	Arg	Leu	Leu	Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp			
	850					855					860							
Pro	Thr	Leu	Asn	Met	Leu	Ile	Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala			
865					870					875					880			
Leu	Gly	Asn	Leu	Thr	Leu	Val	Leu	Ala	Ile	Ile	Val	Phe	Ile	Phe	Ala			
				885					890					895				
Val	Val	Gly	Met	Gln	Leu	Phe	Gly	Lys	Ser	Tyr	Lys	Glu	Cys	Val	Cys			
			900					905					910					
Lys	Ile	Ser	Asn	Asp	Cys	Glu	Leu	Pro	Arg	Trp	His	Met	His	Asp	Phe			
		915					920					925						
Phe	His	Ser	Phe	Leu	Ile	Val	Phe	Arg	Val	Leu	Cys	Gly	Glu	Trp	Ile			
	930					935					940							



Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
945 950 955 960

Thr Val Phe Met Met Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
965 970 975

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
980 985 990

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
995 1000 1005

Arg Met Gln Lys Gly Ile Asp Phe Val Lys Arg Lys Ile Arg Glu  
1010 1015 1020

Phe Ile Gln Lys Ala Phe Val Arg Lys Gln Lys Ala Leu Asp Glu  
1025 1030 1035

Ile Lys Pro Leu Glu Asp Leu Asn Asn Lys Lys Asp Ser Cys Ile  
1040 1045 1050

Ser Asn His Thr Thr Ile Glu Ile Gly Lys Asp Leu Asn Tyr Leu  
1055 1060 1065

Lys Asp Gly Asn Gly Thr Thr Ser Gly Ile Gly Ser Ser Val Glu  
1070 1075 1080

Lys Tyr Val Val Asp Glu Ser Asp Tyr Met Ser Phe Ile Asn Asn  
1085 1090 1095

Pro Ser Leu Thr Val Thr Val Pro Ile Ala Val Gly Glu Ser Asp  
1100 1105 1110

Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser Ser Glu Ser Asp Met  
1115 1120 1125

Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser Ser Ser Glu Gly  
1130 1135 1140

Ser Thr Val Asp Ile Gly Ala Pro Ala Glu Gly Glu Gln Pro Glu  
1145 1150 1155

Val	Glu	Pro	Glu	Glu	Ser	Leu	Glu	Pro	Glu	Ala	Cys	Phe	Thr	Glu
1160						1165					1170			
Asp	Cys	Val	Arg	Lys	Phe	Lys	Cys	Cys	Gln	Ile	Ser	Ile	Glu	Glu
1175						1180					1185			
Gly	Lys	Gly	Lys	Leu	Trp	Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Lys
1190						1195					1200			
Ile	Val	Glu	His	Asn	Trp	Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile
1205						1210					1215			
Leu	Leu	Ser	Ser	Gly	Ala	Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu
1220						1225					1230			
Gln	Arg	Lys	Thr	Ile	Lys	Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val
1235						1240					1245			
Phe	Thr	Tyr	Ile	Phe	Ile	Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala
1250						1255					1260			
Tyr	Gly	Phe	Gln	Val	Tyr	Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp
1265						1270					1275			
Phe	Leu	Ile	Val	Asp	Val	Ser	Leu	Val	Ser	Leu	Thr	Ala	Asn	Ala
1280						1285					1290			
Leu	Gly	Tyr	Ser	Glu	Leu	Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu
1295						1300					1305			
Arg	Ala	Leu	Arg	Pro	Leu	Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met
1310						1315					1320			
Arg	Ala	Val	Val	Asn	Ala	Leu	Leu	Gly	Ala	Ile	Pro	Ser	Ile	Met
1325						1330					1335			
Asn	Val	Leu	Leu	Val	Cys	Leu	Ile	Phe	Trp	Leu	Ile	Phe	Ser	Ile
1340						1345					1350			
Met	Gly	Val	Asn	Leu	Phe	Ala	Gly	Lys	Phe	Tyr	His	Cys	Ile	Asn
1355						1360					1365			

Tyr	Thr	Thr	Gly	Glu	Met	Phe	Asp	Val	Ser	Val	Val	Asn	Asn	Tyr
1370						1375						1380		
Ser	Glu	Cys	Lys	Ala	Leu	Ile	Glu	Ser	Asn	Gln	Thr	Ala	Arg	Trp
1385						1390						1395		
Lys	Asn	Val	Lys	Val	Asn	Phe	Asp	Asn	Val	Gly	Leu	Gly	Tyr	Leu
1400						1405						1410		
Ser	Leu	Leu	Gln	Val	Ala	Thr	Phe	Lys	Gly	Trp	Met	Asp	Ile	Met
1415						1420						1425		
Tyr	Ala	Ala	Val	Asp	Ser	Arg	Asn	Val	Glu	Leu	Gln	Pro	Lys	Tyr
1430						1435						1440		
Glu	Asp	Asn	Leu	Tyr	Met	Tyr	Leu	Tyr	Phe	Val	Ile	Phe	Ile	Ile
1445						1450						1455		
Phe	Gly	Ser	Phe	Phe	Thr	Leu	Asn	Leu	Phe	Ile	Gly	Val	Ile	Ile
1460						1465						1470		
Asp	Asn	Phe	Asn	Gln	Gln	Lys	Lys	Lys	Phe	Gly	Gly	Gln	Asp	Ile
1475						1480						1485		
Phe	Met	Thr	Glu	Glu	Gln	Lys	Lys	Tyr	Tyr	Asn	Ala	Met	Lys	Lys
1490						1495						1500		
Leu	Gly	Ser	Lys	Lys	Pro	Gln	Lys	Pro	Ile	Pro	Arg	Pro	Ala	Asn
1505						1510						1515		
Lys	Phe	Gln	Gly	Met	Val	Phe	Asp	Phe	Val	Thr	Lys	Gln	Val	Phe
1520						1525						1530		
Asp	Ile	Ser	Ile	Met	Ile	Leu	Ile	Cys	Leu	Asn	Met	Val	Thr	Met
1535						1540						1545		
Met	Val	Glu	Thr	Asp	Asp	Gln	Ser	Gln	Glu	Met	Thr	Asn	Ile	Leu
1550						1555						1560		
Tyr	Trp	Ile	Asn	Leu	Val	Phe	Ile	Val	Leu	Phe	Thr	Gly	Glu	Cys
1565						1570						1575		
Val	Leu	Lys	Leu	Ile	Ser	Leu	Arg	Tyr	Tyr	Tyr	Phe	Thr	Ile	Gly

1580		1585		1590
Trp Asn Ile Phe Asp Phe Val	Val Val Ile Leu Ser	Ile Val Gly		
1595	1600	1605		
Met Phe Leu Ala Glu Leu Ile	Glu Lys Tyr Phe Val	Ser Pro Thr		
1610	1615	1620		
Leu Phe Arg Val Ile Arg Leu	Ala Arg Ile Gly Arg	Ile Leu Arg		
1625	1630	1635		
Leu Ile Lys Gly Ala Lys Gly	Ile Arg Thr Leu Leu	Phe Ala Leu		
1640	1645	1650		
Met Met Ser Leu Pro Ala Leu	Phe Asn Ile Gly Leu	Leu Leu Phe		
1655	1660	1665		
Leu Val Met Phe Ile Tyr Ala	Ile Phe Gly Met Ser	Asn Phe Ala		
1670	1675	1680		
Tyr Val Lys Arg Glu Val Gly	Ile Asp Asp Met Phe	Asn Phe Glu		
1685	1690	1695		
Thr Phe Gly Asn Ser Met Ile	Cys Leu Phe Gln Ile	Thr Thr Ser		
1700	1705	1710		
Ala Gly Trp Asp Gly Leu Leu	Ala Pro Ile Leu Asn	Ser Gly Pro		
1715	1720	1725		
Pro Asp Cys Asp Pro Asp Lys	Asp His Pro Gly Ser	Ser Val Lys		
1730	1735	1740		
Gly Asp Cys Gly Asn Pro Ser	Val Gly Ile Phe Phe	Phe Val Ser		
1745	1750	1755		
Tyr Ile Ile Ile Ser Phe Leu	Val Val Val Asn Met	Tyr Ile Ala		
1760	1765	1770		
Val Ile Leu Glu Asn Phe Ser	Val Ala Thr Glu Glu	Ser Ala Glu		
1775	1780	1785		
Pro Leu Ser Glu Asp Asp Phe	Glu Met Phe Tyr Glu	Val Trp Glu		
1790	1795	1800		

Lys	Phe	Asp	Pro	Asp	Ala	Thr	Gln	Phe	Ile	Glu	Phe	Ala	Lys	Leu
1805						1810					1815			
Ser	Asp	Phe	Ala	Asp	Ala	Leu	Asp	Pro	Pro	Leu	Leu	Ile	Ala	Lys
1820						1825					1830			
Pro	Asn	Lys	Val	Gln	Leu	Ile	Ala	Met	Asp	Leu	Pro	Met	Val	Ser
1835						1840					1845			
Gly	Asp	Arg	Ile	His	Cys	Leu	Asp	Ile	Leu	Phe	Ala	Phe	Thr	Lys
1850						1855					1860			
Arg	Val	Leu	Gly	Glu	Ser	Gly	Glu	Met	Asp	Ala	Leu	Arg	Ile	Gln
1865						1870					1875			
Met	Glu	Glu	Arg	Phe	Met	Ala	Ser	Asn	Pro	Ser	Lys	Val	Ser	Tyr
1880						1885					1890			
Glu	Pro	Ile	Thr	Thr	Thr	Leu	Lys	Arg	Lys	Gln	Glu	Glu	Val	Ser
1895						1900					1905			
Ala	Ile	Ile	Ile	Gln	Arg	Ala	Tyr	Arg	Arg	Tyr	Leu	Leu	Lys	Gln
1910						1915					1920			
Lys	Val	Lys	Lys	Val	Ser	Ser	Ile	Tyr	Lys	Lys	Asp	Lys	Gly	Lys
1925						1930					1935			
Glu	Cys	Asp	Gly	Thr	Pro	Ile	Lys	Glu	Asp	Thr	Leu	Ile	Asp	Lys
1940						1945					1950			
Leu	Asn	Glu	Asn	Ser	Thr	Pro	Glu	Lys	Thr	Asp	Met	Thr	Pro	Ser
1955						1960					1965			
Thr	Thr	Ser	Pro	Pro	Ser	Tyr	Asp	Ser	Val	Thr	Lys	Pro	Glu	Lys
1970						1975					1980			
Glu	Lys	Phe	Glu	Lys	Asp	Lys	Ser	Glu	Lys	Glu	Asp	Lys	Gly	Lys
1985						1990					1995			
Asp	Ile	Arg	Glu	Ser	Lys	Lys								
2000						2005								

<210> 37  
<211> 912  
<212> DNA  
<213> Homo sapiens

<400> 37  
gaattcttta tatgggttga atgactttct gacatagcaa ataaaaagca tgaggagaag 60  
cattatctgt taacaaaatt aacacttaaa atcaacaaag ttttaatgtt tcgttccaag 120  
aaaagcctgt ggaagatcag ttccacaact gagagctttg ggctgcttca gacatatgtc 180  
tgtgtgtacg ctgtgaagggt gtttctcttc acagttcccc gccctctagt ggtagttaca 240  
ataatgccat tttgtagtcc ctgtacagga aatgcctctt cttacttcag ttaccagaat 300  
ccttttacag gaagttaggt gtggctcttg aaggagaatt aaaaaaaaaa aaaaaaaaaa 360  
aaaaaagatt tttttttttt taaagcatga tggaatttta gctgcagtct tcttggggcc 420  
agcttatcaa tcccaaactc tgggggtaaa agattctaca ggggtaatgt ttattatttc 480  
ttattatgct tattctctgt gatgcttctc tacctttaca gtagtagaat ccttggggaa 540  
atctgcagag ggaccacttt catthttgaag ctgctggctg catgttttag catgtctctt 600  
ctattagaga atccaggcat ggagtttcc tccccagtg tgcaaggacc atcttcatgc 660  
ctatgtctgt cgctaggcat gagggctctc aggaatgggt gaaaaaaatg agggatgttt 720  
tgagggcact ataatactgg ggagggcagt ctgctagctg gtagctgaaa ggtcctgggt 780  
tacttcaaca ttttttttaa ataaaactgt gcagtagttt ttgttatttt agggttccct 840  
ctgttttatc tgggtgatgc tgcagaagtg aactgcataa cacatttcac tcttagaaat 900  
gcattccata ta 912

<210> 38  
<211> 722  
<212> DNA  
<213> Homo sapiens

<400> 38  
ctcagtgcac gtaactgaca caatcacctc tatctaattg tcatgcttct tacctcctgt 60  
tctgtagcac tttcttatgc aaggagctaa acagtgatta aaggagcagg atgaaaagat 120  
ggcacagtca gtgctggtac cgccaggacc tgacagcttc cgcttcttta ccagggaatc 180  
ccttgctgct attgaacaac gcattgcaga agagaaagct aagagacca aacaggaacg 240  
caaggatgag gatgatgaaa atggcccaaa gccaaacagt gacttggaag cagsaaaatc 300  
tcttccattt atttatggag acattcctcc agagatgggt tcatgcccc tggaggatct 360

ggacccctac tatatcaata agaaagtgag ttcttagtca agttgccttc actgcctatt	420
tactaattgg ttctgggcta gtcccagga tgatggtgaa gaaggctggc ctccttcct	480
ctgtctaaag tatcactaag atgctggatg ggcctgaccg tgtaatggac caatgaccc	540
agaagtcttt tggaagcact catttgaacc tgcatttgtg agacaggcag agaactggtg	600
aggcatcctc cagcgcggga attaaggaag gacaaaagcc tattcacctt cttgaataca	660
aattatatgc ttaaaccagt gtaaattgac cctgattccc taataatgtt gagaagcaaa	720
aa	722

<210> 39  
 <211> 561  
 <212> DNA  
 <213> Homo sapiens

<400> 39	
cctatggcat tgatcacaaa ttttcttaat aatcctcatg tcatttatca aatttaggaa	60
agtttatagt gctcagaaaa aaaaagcatc tatcttcatg tcatatgatg gtaattatta	120
tggtatacac tattttacag ggcaatattt ataaataatg gttttacttt tctcttaaaa	180
tattcttaat atatattcta agttttgttt tatgtgtgtg gttttctttt tcagacgttt	240
atagtattga ataaagggaa agcaatctct cgattcagtg ccacccctgc cctttacatt	300
ttactccct tcaaccctat tagaaaatta gctattaaga ttttggtaca ttcatatcct	360
ttttcaaata gtcacttaat atgattttct tctttgacca agttattgag ctacacattt	420
tccaaaatat ctgtgggttg caatgttatg tggtctttct ttttctttcc ttttactcaa	480
tcgtagcat gttgcaaaat gagatcacag gtaagtgaat tactttcccc cgtcttctaa	540
gtgtttcttc tctacccaac t	561

<210> 40  
 <211> 510  
 <212> DNA  
 <213> Homo sapiens

<400> 40	
acctaaatag cctcaaaata gttgatggct tggcctgaag acaagatcta aatatgaggt	60
tgctgagtta tagaatggc aaaaaaagg gtcaataata gaataataag caacaaaata	120
atagtaagca ctaaagtttt aaacttcatg gtggtgaagg catggtagtg cataaaagta	180
agatttttcc attgaacttt gtcttccttg acgatattct actttattca atatgctcat	240

tatgtgcacg attccttacca actgtgtatt tatgaccatg agtaaccctc cagactggac	300
aaagaatgtg gagtaagtat aaatatTTTT caatatTgac ctccctttat gtttcatatt	360
gtgcttttaa caccttgaga ctcctcaat ttctttaaca aatcatgcta gctactgtta	420
accagaccct gattcaaatt catttctgtc actaaatgtc ttctaggaca aagcttgtag	480
tgggctcact tagttgtgta aattactgca	510

<210> 41  
 <211> 370  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (293)..(293)  
 <223> n= a, c, t or g

<400> 41	
taagatatgt acttgtaaatt taaccactag atttttaatg tgagcttggc tattgtctct	60
caggatatacc ttacaggaa ttatacttt tgaatcactt attaaaatac ttgcaagggg	120
cttttgttta gaagatttca catttttacg ggatccatgg aattgggttg atttcacagt	180
cattactttt gcgtaagtat ctttaatacat ttctatcctt ggaagagtaa atcactgggtg	240
ggagcctata ctatatTTTt cttgggtggct tgccttgaca gaccaagcat ttntcttagt	300
aatcatagtt ttcttccaat caaattatcc agtttgagaga aattaggaac tatcatagta	360
aattacatgg	370

<210> 42  
 <211> 370  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (133)..(133)  
 <223> n = a, c, t or g

<400> 42	
caattagcac tgtaaagtaa taaagtttcc caaataacag agattatgat tgatgacaat	60
gccattttcc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggtcttg	120
atgaaagacc aangaagacg tagattttcc taaattctga ataactctga tttaattcta	180
caggatatgta acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt	240



cttgagagct ttgaaaacta tttctgtaat tccaggttaag aagaaaatgg tataaggtgg 300  
taggcccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360  
cctattacag 370

<210> 43  
<211> 410  
<212> DNA  
<213> Homo sapiens

<400> 43  
gtaagaagaa aatggtataa ggtggtaggc cccttatatc tccaactgtt tcttgtgttc 60  
tgtcattgtg tttgtgtgtg aaccccctat tacagatatg tgacagagtt tgtggacctg 120  
ggcaatgtct cagcgttgag aacattcaga gttctccgag cattgaaaac aatttcagtc 180  
attccagggtg agagctaggt taaacaccga ggctgacttt agctacagtg gtgctacaat 240  
cacagctttt gtgcagaagc cttgttgcta gttgcatatt gcaaataaat atgtaaaaaa 300  
gcaagaattg gtacatcatt ttttggtatg atttgattct ttgcttttta cccgttgctt 360  
tctttaaaac tattctaaat cagcctttga gtttaacaag tgttgcata 410

<210> 44  
<211> 1066  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (229)..(229)  
<223> n = a, c, t or g

<400> 44  
aaagagtgtt tggaaataca catttggttc atttccattc acagttttct aatgaacata 60  
caagttctgc tttcattcat tttcaccagc tagtaggctt ttcataaaaa tgttattcaa 120  
tcacaaacat taaactaata ttggtggcat tctgcatgac atttttatatt tccaggccaa 180  
gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240  
gattttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300  
ttctgatgtc atgatcttga ctgtgttctg tctaagcgtg tttgcgctaa taggattgca 360  
gttgttcatg ggcaacctac gaaataaatg tttgcaatgg cctccagata attcttcctt 420  
tgaaataaat atcacttcct tctttaacaa ttcattggat gggaatggta ctactttcaa 480

taggacagtg agcatattta actgggatga atatattgag gataaaagta agatatactc	540
tataaaccat taagttgttt agttctctaa atattaaata ttatatataa tggaaattat	600
ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa	660
agagatatca aaggatacct tattctattt ttsttatctg tccattgata tagtaaaagt	720
tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata	780
ttaaaaaagg tttatttggt agacattaat cagggttttc agtcatttta ataaataagt	840
cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa	900
taatttggcc ctatttggtt gatgcaacat atgtattgag tacatatgct atatctgaaa	960
ctagagaaac catttatcaa gatgaaataa gaatttgtgt gtcctcaga aggttaaagta	1020
accctgattt agccattcac ttcattccata ttctaattag tccctt	1066

<210> 45  
 <211> 385  
 <212> DNA  
 <213> Homo sapiens

<400> 45	
gttcaattat tgtgaaaaat cttcttttagc catatatatt tattagttta tccatctcat	60
tatgattgaa aacatttgtg agctttgcc aataaacagg gtggctgaag tgttttacag	120
gattttaatg attctttcta ttcctttctc tttaaataagg tcaacttttat tttttacagg	180
ggcaaaatga tgctctgctt tgtggcaaca gctcagatgc agggtaagtg tatgcttctc	240
actgagtttc agtccacact gctccatcag tgtcaataac ctgccacctc ccaactcatcc	300
agtcccacca ctctcactc aaaaccctcc ataaattcta ctacacgggtg actctcagaa	360
tgaccaggat aagtgtagat tctca	385

<210> 46  
 <211> 430  
 <212> DNA  
 <213> Homo sapiens

<400> 46	
tataataatg acaattatga atcacagagg aatccacaaa gtagacctta tagattctgt	60
cattatataa atcagtcac ttagtgctga gttaagtact gggtaagggtg agagaaatcg	120
gcttttttct agtgctgta taaaacagac attggcatat attaaaacag gaaaaccaat	180
tagcagactt gccgttattg actycctctc tttctcttaa cctaattaca gccagtgtcc	240
tgaaggatac atctgtgtga aggctggtag aaaccccaac tatggctaca cgagctttga	300

caccttttagt tgggcctttt tgtccttatt tcgtctcatg actcaagact tctgggaaaa	360
cctttatcaa ctggtgagaa cagataaaat ctttttctg agaatcataa aacaccgaac	420
tcaagagaat	430

<210> 47  
 <211> 646  
 <212> DNA  
 <213> Homo sapiens

<400> 47	
tgctgtagaa ttttttatta cttagagtgt aagtttgtaa catcctatat aaaatttatt	60
aaaatctctc ttccattttg cagacactac gtgctgctgg gaaaacgtac atgatatttt	120
ttgtgctggg ctttttcttg ggctcattct atctaataaa tttgatcttg gctgtgggtg	180
ccatggccta tgaggaacag aatcaggcca cattggaaga ggctgaacag aaggaagctg	240
aatttcagca gatgctcgaa cagttgaaaa agcaacaaga agaagctcag gtatagttaa	300
caagcatacg gtcctttgtt tttctgtatc taaattcttt aacctaaatg ttgaggctcag	360
tggcaaggta gttgacatta gaaataggct atatgtgttt ggtaagtgtc aggagcctgt	420
ttggttatta agaagttatt actttattgc aatgatctct gtcaatagtg tcaatagtaa	480
tggcatcaaa aaatggataa ttataattgc tttactgaca tttttttctc cttgtgtgact	540
ccttgaggaa attaatgatt aacaaaggcc tcactgtactc aaacttgacag agtagataaa	600
cctacatgtc ctcagttgaa gtattttctt aggggaagag gaattc	646

<210> 48  
 <211> 711  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (164)..(164)  
 <223> n = a, c, t or g

<400> 48	
tatgtatcat cttccatatg aatgcgcatt ttactctttg attggtctaa taacagtgta	60
ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcatgatat	120
tgaagctcaa ttaagcagta acatgataat ttttttttaa gatnatatgc aacttccac	180
atactttgcg ccttcttagg cggcagctgc agccgcactc gctgaatcaa gagacttcag	240

tggtgctggt gggataggag ttttttcaga gagttcttca gtagcatcta agttgagctc	300
caaaagtgaa aaagagctga aaaacagaag aaagaaaaag aaacagaaag aacagtctgg	360
agaagaagag aaaaatgaca gagtcctaaa atcggaatct gaagacagca taagaagaaa	420
aggtttccgt ttttccttgg aaggaagtag gctgacatat gaaaagagat tttcttctcc	480
acaccaggta aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata	540
tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt	600
agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt	660
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<210> 49  
 <211> 1026  
 <212> DNA  
 <213> Homo sapiens

<400> 49	
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aagtgccaaa atgccaccag cagtcatcag aggggtgctt tcttccacat gtccaatgac	180
ttatccttga gtaagtcaat gactatgaca caatgaatca aattctgttt ttcagaatgc	240
cagctcttaa ctctcttcat ctcatTTTTg tttcttttct tgttattcat agtccttact	300
gagcatccgt ggctcccttt tctctccaag acgcaacagt agggcgagcc ttttcagctt	360
cagaggtcga gcaaaggaca ttggctctga gaatgacttt gctgatgatg agcacagcac	420
ctttgaggac aatgacagcc gaagagactc tctgttcgtg ccgcacagac atggagaacg	480
gcgccacagc aatgtcagcc aggccagccg tgccctcagg gtgctcccca tcttgcccat	540
gaatgggaag atgcatagcg ctgtggactg caatggtgtg gtctccctgg tcgggggccc	600
ttctaccctc acatctgctg ggcagctcct accagaggtg aggccaaacyy magattgcag	660
ctgatgtgaa gagagttgtg actggtgcag gcaggagtgy ttttccattt mcacatctaa	720
gaatttkttg agtttsttgc ccaaaggctg ggagtttgtt caatcaagct gttaactgtc	780
ttgtgaaact sttctattca gacttlycta caaagtaatt aaaaacctag gttggctgtc	840
agagaatata attagamgtm atctttcatc ayyattacta tggtatgaaa ctcgccaaaa	900
agcaaagcaa caatttatca agcataatgt tygaytaata tagttaaatt aaatccaagg	960
aaattaatgc tcacaaatta aataaatact taaggatttt gtgattgttg ttcatttaaa	1020

aggaga

1026

<210> 50  
<211> 601  
<212> DNA  
<213> Homo sapiens

<400> 50  
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taaacaaccc ccaaataatt atcattccaa caatatctta gtgagctttt tacatctgag 120  
aaagcatggg gtatatattag ttaaataaca cctgttgtag gaatgctttg ggctttgctg 180  
ctttcaaaaa tagtggttat ttcactgaa attctacttc tagggcacia ctactgaaac 240  
agaaataaga aagagacggg ccagttctta tcatgtttcc atggatttat tggaagatcc 300  
tacatcaagg caaagagcaa tgagtatagc cagtattttg accaacacca tggaaggat 360  
gttaaaagtc ctgcgtcaca gttacttggg gctttcctaa tgatgaaaaa cacttcataa 420  
atttcaataa aatacttcct gacttgatat tgtatcatta ttacacattt tactaaataa 480  
cagtaaaatc cgtgcataac tcatggattc atatattcca cagatttttt tttttatat 540  
ttagcctgta gaaagctgct gcaaagttaa ggtatatattg aacaccactt tcataactta 600  
a 601

<210> 51  
<211> 645  
<212> DNA  
<213> Homo sapiens

<400> 51  
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ctgttcctcc agcagattaa ccataatat cttttaacaa ctttagattt tttaaattcc 120  
ttttaattta aaccaaattc gcttaataga aagtaagcag ttttcatgag gattctaact 180  
ttttttcttc cagaacttga agaattcaga cagaaatgcc caccatgctg gtataaattt 240  
gctaatatgt gtttgatttg ggactgttgt aaaccatggg taaagggtgaa acaccttgct 300  
aacctgggtg taatggaccc atttggtgac ctggccatca ccatctgcat tgtcttaaat 360  
acactcttca tggctatgga gcactatccc atgacggagc agttcagcag tgtactgtct 420  
gttggaacc tggtaagcct cactgagagt ttctcttctt cttgaaagag tttataattg 480  
ccttagtgaa ttttacatat tgctctcaaa ttaaataatca actaattggc catgtatatc 540  
ttgacatcaa atgttttagca tcccttttaa ataacaaaaa aatgttgcta ccatagtgca 600

aaagagtcaa agaatttatg tacaatttga tttagaattg aattt 645

<210> 52  
<211> 485  
<212> DNA  
<213> Homo sapiens

<400> 52  
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gttgctcaat aattattcgt gtttcaakas tatttgctca tataatgaac tacacttctc 120  
atttaggtct tcacagggat cttcacagca gaaatgtttc tcaagataat tgccatggat 180  
ccatattatt actttcaaga aggctggaat atttttgatg gttttattgt gagccttagt 240  
ttaatggaac ttggtttggc aaatgtggaa ggattgtcag ttctccgatc attccggctg 300  
gtaaattaac tgggagtgtt cataaaatgt actttrtaat taattagtct tcattctcat 360  
ctagtaaaaa tggcaagatt tcccatcatt ataatatatt tgaatacctt ctaaaacaga 420  
ttggattgcc ataccaccaa atggtagttt cttcttcac atagctttaa taaagttcac 480  
ttaa 485

<210> 53  
<211> 602  
<212> DNA  
<213> Homo sapiens

<400> 53  
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tatataataa taaaataaaa taaaaataaa aataaaaaaa taaaataaaa ataaaattgc 120  
agattttttt agaaatgcag agattaacac tggtcttgct tttatttcca gctccgagtt 180  
ttcaagttgg caaaatcttg gccaaactcta aatatgctaa ttaagatcat tggcaattct 240  
gtgggggctc taggaaacct caccttggtg ttggccatca tegtcttcat ttttgctgtg 300  
gtcggcatgc agctcttttg taagagctac aaagaatgtg tctgcaagat ttccaatgat 360  
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gtgctgtgtg gagagtggat agagaccatg tgggactgta tggaggtcgc tggccaaacc 480  
atgtgcctta ctgtcttcat gatggctcat gtgattggaa atctagtgg atgtagcaaa 540  
aacattttcc tcattttcat taaaataaat gtaatcatta aaaagtgttc aactgaagaa 600  
ta 602

<210> 54  
<211> 803  
<212> DNA  
<213> Homo sapiens

<400> 54  
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agtattatatt tatattgacc aagcattttt atttcattca ctttttttca gaatagtgtgta 120  
tcatgaatta gcagaaatgc atgttagaat aaaataagggt gtcaagaaca atcttagaaa 180  
actaatgatg gaaagcaatt gaagcaatag aatgttttga tcacctgttt ttcctgctgt 240  
gtttcaggtt ctgaacctct tcttgccctt gcttttgagt tccttcagtt ctgacaatct 300  
tgctgccact gatgatgata acgaaatgaa taatctccag attgctgtgg gaaggatgca 360  
gaaaggaatc gattttgtta aaagaaaaat acgtgaattt attcagaaag cctttgttag 420  
gaagcagaaa gcttttagatg aaattaaacc gcttgaagat ctaaataata aaaaagacag 480  
ctgtatttcc aaccatacca ccatagaaat aggcaaagac ctcaattatc tcaaagacgg 540  
aaatggaact actagtggca taggcagcag tgtagaaaaa tatgtcgtgg atgaaagtga 600  
ttacatgtca ttataaaaca accctagcct cactgtgaca gtaccaattg ctgttgagaga 660  
atctgacttt gaaaatttaa atactgaaga attcagcagc gagtcagata tggaggaaag 720  
caaagaggta aaatgttaaa taaggagata ttttggtgta tataatctgt gttaaataatc 780  
aggtgtttaa tgcgtgtctc tgt 803

<210> 55  
<211> 615  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (90)..(90)  
<223> n = a, c, t or g

<220>  
<221> misc\_feature  
<222> (378)..(386)  
<223> n = a, c, t or g

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tggcattatg ttttaagttct taattacaga tcaagaaaaa tgcatacaga agatggggggg	180
gggcacacct aattaatttt tatattttaga ttaaagaaaa taattaaatg tgtttttttg	240
tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat	300
tggagctccc gccgaggag aacagcctga ggttgaacct gaggaatccc ttgaacctga	360
agcctgtttt acagaagnnn nnnnnnaagc aaaacaataa catatgtggt cttgagtatc	420
ctcttttcta cccatttttt cctatttatt taaatgtctg tttatttgtc taccatctag	480
ttcatctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctatacctat	540
ccaacaactg tacatttatt tgtttttttt ttttgcattt gctgtttgaa aaaaaatgca	600
acgtttttaa ggcaa	615

<210> 56  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

<400> 56	
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gtaataatgt aatgaatct cccaccaaca caaatatacc taatcaaaga gtaatttttt	120
gtcttcattt ttttcccaca tatttttagac tgtgtacgga agttcaagtg ttgtcagata	180
agcatagaag aaggcaaagg gaaactctgg tggaatttga ggaaaacatg ctataagata	240
gtggagcaca attggttcga aaccttcatt gtcttcatga ttctgctgag cagtggggct	300
ctggtaggtg atgcatgac cactccttca cctttcatct gaaatctttt ccctttccct	360
tcaatcaact catattaccc actttttaa taaggtgttt	400

<210> 57  
 <211> 560  
 <212> DNA  
 <213> Homo sapiens

<400> 57	
aaattactga aacccttggt tgactgaaat gccagtcag cagtcattta tgatcagata	60
atgataaagt aaaattcagc catgggaaac attaaacctt ccagccttag gcacctgata	120
agagcttgca tcgtttcctt ttttaagaaa tcatcaatta gagactgttt ctgatcataa	180
aatttaatag aattttttga cttacaggcc tttgaagata tatacattga gcagcgaaaa	240
accattaaga ccatgttaga atatgctgac aagggtttca cttacatatt cattctggaa	300



atgctgctaa agtgggttgc atatggtttt caagtgtatt ttaccaatgc ctggtgctgg	360
ctagacttcc tgattgttga tgtgagtatg ctgcactttg ctgctttatt cattggcata	420
tatgtaatag ttctagcaat ggtgcctgac acagtgtagg cactcagtaa cactgtatca	480
gcccaaatat aaattatggt tctcatttca cagtgaagg atgcctcaaa acatttttta	540
ccaatttaaa tacatatata	560

<210> 58  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<400> 58	
aaattcttag gcctttcccc aaacttacta agtcagactc tgctattggt gtttttaaca	60
agacccttg gtgattttga aactcatgaa agttcgagaa ttactgattc attgcataga	120
gcaaggctga actgtgtaga cttttttata tgtaaataag aaaattgtgt tgctttttct	180
gtataggtct cactgggttag cttaactgca aatgccttgg gttactcaga acttgggtgcc	240
atcaaattccc tcagaacact aagagctctg aggcactga gagctttgtc ccggtttgaa	300
ggaatgaggg taagactgaa tgccttagag tttgtcagaa ttattattga gagcagactg	360
acactttgta ccatggaaat gtcaaattta tggagaattt gtgtcttaca cattcatact	420
gacatagcta atcaatcaaa aataatattt accagatgcc cataatactt ggccactgctg	480

<210> 59  
 <211> 640  
 <212> DNA  
 <213> Homo sapiens

<400> 59	
taattttaaa attcttagtt ggagctacca gagtctagtt tctaccaat attcaacttt	60
gaaacagatt tttttaatca tttgactggt cttttaataa tgtttaaaaa taagtaaata	120
tttgttgttg gcttttcact tatttttcct tctcatctg tgccagggtg ttgtaaatgc	180
tcttttagga gccattccat ctatcatgaa tgtacttctg gtttgtctga tcttttggct	240
aatattcagt atcatgggag tgaatctctt tgctggcaag ttttaccatt gtattaatta	300
caccactgga gagatgtttg atgtaagcgt ggtcaacaac tacagtgaat gcaaagctct	360
cattgagagc aatcaaactg ccagggtgaa aaatgtgaaa gttaaactttg ataacgtagg	420
acttggatat ctgtctctac ttcaagtagt aagtaatcac tttattattt tccatgatgt	480
gtaattaaaa tgagtctaaa gtttttcttc ctcataatga gatatccacc tgttagaatg	540

gctattatca aacagataaa tgacaataaa tgctggcaag aatgtgaaga aaaggaacc	600
cttgtagatt gttggcaggg atgtaaatta gtatagcttt	640

<210> 60  
 <211> 480  
 <212> DNA  
 <213> Homo sapiens

<400> 60	
atttgaagta ttttcaatgc atatcgcaaa acattgcccc aaaagtgaat acaaatttca	60
agcttatttta tatgcttgta ttgaatacat gtcaaataga attttgatca attattcaat	120
ttatttttcta aaattataat tttgggaaaa aagaaaatga tatgactttt cttacaggcc	180
acgtttaagg gatggatgga tattatgtat gcagctgttg attcacgaaa tgtaagtcta	240
gtagagggga aattgttttag ttgattaaa tgtatatttc tacaatattg taatttagtg	300
atattgtcaa taaaataaaa ttatgtgctt aatttataaa acccatctat attataagga	360
taaaatattt aatcatacta tttctttcaa aattatcata ggatgatttt ctctaatac	420
tctgtatctt ttaacatatc ttttctagta ttagcaagg cacctgacac aaaactttat	480

<210> 61  
 <211> 366  
 <212> DNA  
 <213> Homo sapiens

<400> 61	
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tataatgggtt acaattcttc atattcttta ggtagaatta caacccaagt atgaagacaa	120
cctgtacatg tatctttatt ttgtcatctt tattatTTTTT gggtcattct ttaccttgaa	180
tcttttcatt ggtgtcatca tagataactt caaccaacag aaaaagaaga taagtatatt	240
aaaacttcat ccttgctctg aaatatgaac taaatatttc atactctttc ctttagcctc	300
caaaatgcaa tcaccaaaaa aagaatataa aattcagaaa ttattttgag acatttgata	360
atcgat	366

<210> 62  
 <211> 560  
 <212> DNA  
 <213> Homo sapiens

<400> 62	
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aaatatgact aatatggcat aatttatata ttgaataaag gcatctctat aaatacagat	120
attagtaaca atagaatgaa atgtgggagc caattttcac atgattacta aggtggattt	180
tatagccagc aaagaacaca attttaacaa gtgttgcttt catttcttta ctttggaggt	240
caagacattt ttatgacaga agaacagaag aaatactaca atgcaatgaa aaaactgggt	300
tcaaagaaac cacaaaaacc catacctcga cctgctgtaa gaataacata ttttcattgc	360
ctgttaaaac tatattacct aaccgtttca cagcccgaat ttctagaaac tagttatttt	420
tgtggatttg taacacaaag ttttttacct taacaatggg actagctagc cttaaagct	480
tgaaaaatgt actttacata tataatatgt ataaattata taatgcataa catattttat	540
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<210> 63  
 <211> 650  
 <212> DNA  
 <213> Homo sapiens

<400> 63	
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aaagctacat tttttgttgc tttcttaaaa tcagaagaat tgaattcgat tttttttaag	120
gttttctaag gaacttttac atattatttg ttccagaaca aattccaagg aatggctctt	180
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aaatctaata gtccattgtt ttagttagg tttgccattt ctctaattgc atgctgtgct	600
tgaaatgatg agtggaaac aaggaattta tattttcagc tttcatttat	650

<210> 64  
 <211> 3700  
 <212> DNA  
 <213> Homo sapiens

<400> 64	
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aatgttttctg gctgaactga tagaaaagta ttttgtgtcc cctaccctgt tccgagtgat	240
ccgtcttgcc aggattggcc gaatcctacg tctgatcaaa ggagcaaagg ggatccgcac	300
gctgctcttt gctttgatga tgtcccttcc tgcgttgttt aacatcggcc tccttctttt	360
cctggtcattg ttcattctacg ccatctttgg gatgtccaat tttgcctatg ttaagaggga	420
agttgggagc gatgacatgt tcaactttga gacctttggc aacagcatga tctgcctgtt	480
ccaaattaca acctctgctg gctgggatgg attgctagca cctattctta atagtggacc	540
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cccatctgtt gggattttct tttttgtcag ttacatcatc atatccttcc tggttgtggg	660
gaacatgtac atcgcggtca tcctggagaa cttcagtgtt gctactgaag aaagtgcaga	720
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ttttaaatgg	aggcatgctg	caattctcat	tcacacataa	aaaaatcaca	tcacaaaagg	1980
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cgtatTTTTa	aggtgtctca	tccagaaaaa	atttaatgtg	cctgtaaatg	ttccatagaa	2100
tcacaagcat	taaagagttg	ttttatTTTT	acataaccca	ttaaatgtac	atgtatatat	2160
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aagtctgctt	tgtaaatagt	aattttaccc	agtgggtgcat	gtttgagcaa	acaaaaatga	2520
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tttcaacagg	taatatgatg	taattgggtc	cattatagtt	tgaagctgtc	actgctgcat	2640
gtttatcttg	cctatgctgc	tgtatcttat	tccttccact	gttcagaagt	ctaatatggg	2700
aagccatata	tcagtggtaa	agtgaagcaa	attgttctac	caagacctca	ttcttcatgt	2760
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Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu  
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Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly  
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Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn  
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Phe Asp Ile Ser Asp Val Asn 1325	Asn Leu Ser Asp Cys 1330	Gln Ala Leu 1335
Gly Lys Gln Ala Arg Trp Lys 1340	Asn Val Lys Val Asn 1345	Phe Asp Asn 1350
Val Gly Ala Gly Tyr Leu Ala 1355	Leu Leu Gln Val Ala 1360	Thr Phe Lys 1365
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Phe Gln	Ile Thr Thr	Ser Ala	Gly Trp Asp	Gly Leu	Leu Ala Pro
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Ile Leu	Asn Ser Ala	Pro Pro	Asp Cys Asp	Pro Asp	Thr Ile His
1670		1675		1680	
Pro Gly	Ser Ser Val	Lys Gly	Asp Cys Gly	Asn Pro	Ser Val Gly
1685		1690		1695	
Ile Phe	Phe Phe Val	Ser Tyr	Ile Ile Ile	Ser Phe	Leu Val Val
1700		1705		1710	



Val Asn Ser Tyr Ile Ala	Val Ile Leu Glu Asn Phe	Ser Val Ala
1715	1720	1725
Thr Glu Glu Ser Ala Glu	Pro Leu Ser Glu Asp Asp	Phe Glu Met
1730	1735	1740
Phe Tyr Glu Val Trp Glu	Lys Phe Asp Pro Asp Ala	Thr Gln Phe
1745	1750	1755
Ile Glu Phe Ser Lys Leu	Ser Asp Phe Ala Ala Ala	Leu Asp Pro
1760	1765	1770
Pro Leu Leu Ile Ala Lys	Pro Asn Lys Val Gln Leu	Ile Ala Met
1775	1780	1785
Asp Leu Pro Met Val Ser	Gly Asp Arg Ile His Cys	Leu Asp Ile
1790	1795	1800
Leu Phe Ala Phe Thr Lys	Arg Val Leu Gly Glu Ser	Gly Glu Met
1805	1810	1815
Asp Ala Leu Arg Ile Gln	Met Glu Asp Arg Phe Met	Ala Ser Asn
1820	1825	1830
Pro Ser Lys Val Ser Tyr	Glu Pro Ile Thr Thr Thr	Leu Lys Arg
1835	1840	1845
Lys Gln Glu Glu Val Ser	Ala Ala Ile Ile Gln Arg	Asn Phe Arg
1850	1855	1860
Cys Tyr Leu Leu Lys Gln	Arg Leu Lys Asn Ile Ser	Ser Asn Tyr
1865	1870	1875
Asn Lys Glu Ala Ile Lys	Gly Arg Ile Asp Leu Pro	Ile Lys Gln
1880	1885	1890
Asp Met Ile Ile Asp Lys	Leu Asn Gly Asn Ser Thr	Pro Glu Lys
1895	1900	1905
Thr Asp Gly Ser Ser Ser	Thr Thr Ser Pro Pro Ser	Tyr Asp Ser
1910	1915	1920

Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys Pro Glu  
 1925 1930 1935

Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys  
 1940 1945 1950

<210> 68  
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 1 5 10 15

Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu  
 20 25 30

Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys  
 35 40 45

Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile  
 50 55 60

Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu  
 65 70 75 80

Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly  
 85 90 95

Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr  
 100 105 110

Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser  
 115 120 125

Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe  
 130 135 140

Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr  
 145 150 155 160

Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg  
 165 170 175

Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp  
 180 185 190

Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser  
 195 200 205

Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu  
 210 215 220

Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu  
 225 230 235 240

Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe  
 245 250 255

Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn  
 260 265 270

Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu  
 275 280 285

Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr  
 290 295 300

Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly  
 305 310 315 320

Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu  
 325 330 335

Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys  
 340 345 350

Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr  
 355 360 365

Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr

370	375	380
Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr		
385	390	395 400
Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val		
	405	410 415
Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln		
	420	425 430
Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met		
	435	440 445
Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala		
	450	455 460
Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu		
465	470	475 480
Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala		
	485	490 495
Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu		
	500	505 510
Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser		
	515	520 525
Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn		
	530	535 540
Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu		
545	550	555 560
Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser		
	565	570 575
Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp		
	580	585 590
Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg		
	595	600 605

Asp	Ser	Leu	Phe	Val	Pro	His	Arg	His	Gly	Glu	Arg	Arg	Asn	Ser	Asn	610	615	620
Gly	Thr	Thr	Thr	Glu	Thr	Glu	Val	Arg	Lys	Arg	Arg	Leu	Ser	Ser	Tyr	625	630	635
Gln	Ile	Ser	Met	Glu	Met	Leu	Glu	Asp	Ser	Ser	Gly	Arg	Gln	Arg	Ala	645	650	655
Val	Ser	Ile	Ala	Ser	Ile	Leu	Thr	Asn	Thr	Met	Glu	Glu	Leu	Glu	Glu	660	665	670
Ser	Arg	Gln	Lys	Cys	Pro	Pro	Cys	Trp	Tyr	Arg	Phe	Ala	Asn	Val	Phe	675	680	685
Leu	Ile	Trp	Asp	Cys	Cys	Asp	Ala	Trp	Leu	Lys	Val	Lys	His	Leu	Val	690	695	700
Asn	Leu	Ile	Val	Met	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ile	Thr	Ile	Cys	705	710	715
Ile	Val	Leu	Asn	Thr	Leu	Phe	Met	Ala	Met	Glu	His	Tyr	Pro	Met	Thr	725	730	735
Glu	Gln	Phe	Ser	Ser	Val	Leu	Thr	Val	Gly	Asn	Leu	Val	Phe	Thr	Gly	740	745	750
Ile	Phe	Thr	Ala	Glu	Met	Val	Leu	Lys	Ile	Ile	Ala	Met	Asp	Pro	Tyr	755	760	765
Tyr	Tyr	Phe	Gln	Glu	Gly	Trp	Asn	Ile	Phe	Asp	Gly	Ile	Ile	Val	Ser	770	775	780
Leu	Ser	Leu	Met	Glu	Leu	Gly	Leu	Ser	Asn	Val	Glu	Gly	Leu	Ser	Val	785	790	795
Leu	Arg	Ser	Phe	Arg	Leu	Leu	Arg	Val	Phe	Lys	Leu	Ala	Lys	Ser	Trp	805	810	815
Pro	Thr	Leu	Asn	Met	Leu	Ile	Lys	Ile	Ile	Gly	Asn	Ser	Val	Gly	Ala	820	825	830

Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala  
835 840 845

Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys  
850 855 860

Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe  
865 870 875 880

Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile  
885 890 895

Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu  
900 905 910

Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn  
915 920 925

Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala  
930 935 940

Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly  
945 950 955 960

Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys  
965 970 975

Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu  
980 985 990

Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile  
995 1000 1005

Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser  
1010 1015 1020

Gly Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu  
1025 1030 1035

Asn Asp Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr  
1040 1045 1050

Val	Pro	Ile	Ala	Val	Gly	Glu	Ser	Asp	Phe	Glu	Asn	Leu	Asn	Thr
1055						1060					1065			
Glu	Glu	Phe	Ser	Ser	Glu	Ser	Glu	Leu	Glu	Glu	Ser	Lys	Glu	Lys
1070						1075					1080			
Leu	Asn	Ala	Thr	Ser	Ser	Ser	Glu	Gly	Ser	Thr	Val	Asp	Val	Val
1085						1090					1095			
Leu	Pro	Arg	Glu	Gly	Glu	Gln	Ala	Glu	Thr	Glu	Pro	Glu	Glu	Asp
1100						1105					1110			
Leu	Lys	Pro	Glu	Ala	Cys	Phe	Thr	Glu	Gly	Cys	Ile	Lys	Lys	Phe
1115						1120					1125			
Pro	Phe	Cys	Gln	Val	Ser	Thr	Glu	Glu	Gly	Lys	Gly	Lys	Ile	Trp
1130						1135					1140			
Trp	Asn	Leu	Arg	Lys	Thr	Cys	Tyr	Ser	Ile	Val	Glu	His	Asn	Trp
1145						1150					1155			
Phe	Glu	Thr	Phe	Ile	Val	Phe	Met	Ile	Leu	Leu	Ser	Ser	Gly	Ala
1160						1165					1170			
Leu	Ala	Phe	Glu	Asp	Ile	Tyr	Ile	Glu	Gln	Arg	Lys	Thr	Ile	Lys
1175						1180					1185			
Thr	Met	Leu	Glu	Tyr	Ala	Asp	Lys	Val	Phe	Thr	Tyr	Ile	Phe	Ile
1190						1195					1200			
Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	Gln	Thr	Tyr
1205						1210					1215			
Phe	Thr	Asn	Ala	Trp	Cys	Trp	Leu	Asp	Phe	Leu	Ile	Val	Asp	Val
1220						1225					1230			
Ser	Leu	Val	Ser	Leu	Val	Ala	Asn	Ala	Leu	Gly	Tyr	Ser	Glu	Leu
1235						1240					1245			
Gly	Ala	Ile	Lys	Ser	Leu	Arg	Thr	Leu	Arg	Ala	Leu	Arg	Pro	Leu
1250						1255					1260			
Arg	Ala	Leu	Ser	Arg	Phe	Glu	Gly	Met	Arg	Val	Val	Val	Asn	Ala

1265		1270		1275
Leu Val	Gly Ala Ile Pro Ser	Ile Met Asn Val	Leu	Leu Val Cys
1280		1285		1290
Leu Ile	Phe Trp Leu Ile Phe	Ser Ile Met Gly	Val	Asn Leu Phe
1295		1300		1305
Ala Gly	Lys Phe Tyr His Cys	Val Asn Met Thr	Thr	Gly Asn Met
1310		1315		1320
Phe Asp	Ile Ser Asp Val Asn	Asn Leu Ser Asp	Cys	Gln Ala Leu
1325		1330		1335
Gly Lys	Gln Ala Arg Trp Lys	Asn Val Lys Val	Asn	Phe Asp Asn
1340		1345		1350
Val Gly	Ala Gly Tyr Leu Ala	Leu Leu Gln Val	Ala	Thr Phe Lys
1355		1360		1365
Gly Trp	Met Asp Ile Met Tyr	Ala Ala Val Asp	Ser	Arg Asp Val
1370		1375		1380
Lys Leu	Gln Pro Val Tyr Glu	Glu Asn Leu Tyr	Met	Tyr Leu Tyr
1385		1390		1395
Phe Val	Ile Phe Ile Ile Phe	Gly Ser Phe Phe	Thr	Leu Asn Leu
1400		1405		1410
Phe Ile	Gly Val Ile Ile Asp	Asn Phe Asn Gln	Gln	Lys Lys Lys
1415		1420		1425
Phe Gly	Gly Gln Asp Ile Phe	Met Thr Glu Glu	Gln	Lys Lys Tyr
1430		1435		1440
Tyr Asn	Ala Met Lys Lys Leu	Gly Ser Lys Lys	Pro	Gln Lys Pro
1445		1450		1455
Ile Pro	Arg Pro Ala Asn Lys	Phe Gln Gly Met	Val	Phe Asp Phe
1460		1465		1470
Val Thr	Arg Gln Val Phe Asp	Ile Ser Ile Met	Ile	Leu Ile Cys
1475		1480		1485



Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys  
1490 1495 1500

Tyr Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val  
1505 1510 1515

Leu Phe Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His  
1520 1525 1530

Tyr Tyr Phe Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val  
1535 1540 1545

Ile Leu Ser Ile Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys  
1550 1555 1560

Tyr Phe Val Ser Pro Thr Leu Phe Arg Val Ile Arg Leu Ala Arg  
1565 1570 1575

Ile Gly Arg Ile Leu Arg Leu Ile Lys Gly Ala Lys Gly Ile Arg  
1580 1585 1590

Thr Leu Leu Phe Ala Leu Met Met Ser Leu Pro Ala Leu Phe Asn  
1595 1600 1605

Ile Gly Leu Leu Leu Phe Leu Val Met Phe Ile Tyr Ala Ile Phe  
1610 1615 1620

Gly Met Ser Asn Phe Ala Tyr Val Lys Lys Glu Ala Gly Ile Asp  
1625 1630 1635

Asp Met Phe Asn Phe Glu Thr Phe Gly Asn Ser Met Ile Cys Leu  
1640 1645 1650

Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly Leu Leu Ala Pro  
1655 1660 1665

Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp Thr Ile His  
1670 1675 1680

Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser Val Gly  
1685 1690 1695

Ile Phe Phe Phe Val Ser Tyr	Ile Ile Ile Ser Phe	Leu Val Val
1700	1705	1710
Val Asn Ser Tyr Ile Ala Val	Ile Leu Glu Asn Phe	Ser Val Ala
1715	1720	1725
Thr Glu Glu Ser Ala Glu Pro	Leu Ser Glu Asp Asp	Phe Glu Met
1730	1735	1740
Phe Tyr Glu Val Trp Glu Lys	Phe Asp Pro Asp Ala	Thr Gln Phe
1745	1750	1755
Ile Glu Phe Ser Lys Leu Ser	Asp Phe Ala Ala Ala	Leu Asp Pro
1760	1765	1770
Pro Leu Leu Ile Ala Lys Pro	Asn Lys Val Gln Leu	Ile Ala Met
1775	1780	1785
Asp Leu Pro Met Val Ser Gly	Asp Arg Ile His Cys	Leu Asp Ile
1790	1795	1800
Leu Phe Ala Phe Thr Lys Arg	Val Leu Gly Glu Ser	Gly Glu Met
1805	1810	1815
Asp Ala Leu Arg Ile Gln Met	Glu Asp Arg Phe Met	Ala Ser Asn
1820	1825	1830
Pro Ser Lys Val Ser Tyr Glu	Pro Ile Thr Thr Thr	Leu Lys Arg
1835	1840	1845
Lys Gln Glu Glu Val Ser Ala	Ala Ile Ile Gln Arg	Asn Phe Arg
1850	1855	1860
Cys Tyr Leu Leu Lys Gln Arg	Leu Lys Asn Ile Ser	Ser Asn Tyr
1865	1870	1875
Asn Lys Glu Ala Ile Lys Gly	Arg Ile Asp Leu Pro	Ile Lys Gln
1880	1885	1890
Asp Met Ile Ile Asp Lys Leu	Asn Gly Asn Ser Thr	Pro Glu Lys
1895	1900	1905

Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser Tyr Asp Ser  
 1910 1915 1920

Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys Pro Glu  
 1925 1930 1935

Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys  
 1940 1945 1950

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 <212> DNA  
 <213> Homo sapiens

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 gatggattat ttttattttc tttatgtatt gtgtgcttca atatcctaataa aaataatatt 180  
 agctagggtc actgatgtat agaatctttt tctacattta gatattttctt gcaaagtgtt 240  
 taccagaaag caacacaaaa atactatcag tgagtatgtg tttacactgt tctctaagga 300  
 gtcaaattcc tcaccttgaa aataattcat cccaggaaga gaaaagggtt tcaaaagact 360  
 agagcaggcc acaagggagc tttcgcaaaa ctctacacgt aaagggtaat gtaaaacttaa 420  
 aacctatttt tcaaacagta atttatatat cttttaattt tagtagttaa tgtgtgaaac 480  
 aatcatgcaa aacaacaaag tgataaaatt ttttaaaaaa attagtgaga tgcaaataac 540  
 tgaatatgta aaagggtctca tacatatatta tatgtagtag ataagttaca tttttttagt 600  
 gtgttgggaa atttttagctc acatcacctc tctactgtca tcttggggca ctttcatgac 660  
 taccatgct tcatgcaggt ttactttcct ccctgtgaca gaggataatg ggaatgtttt 720  
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 ggcttttttt tctttctttt tttttttcct caaagctgtt ttctgatata tgttgggtac 840  
 catagagtga atctcagaac aggaagcgga ggcataagca gagaggattc tggaaaggctc 900  
 tctttgtttt cttatccaca gagaaagaaa gaaaaaaaaat tgtaactaat ttgtaaacct 960  
 ctgtgggtcaa aaaaaaaaaa aaaaaaaaaa gctgaacagc tgcagaggaa gacacgttat 1020  
 accctaacca tcttggatgc tgggctttgt tatgctgtaa ttcataaggc tctgttttat 1080  
 caggtaagct gacaaaacat ttcattatct gcaccataga acctagctac caggtcattt 1140  
 tccttacttt aaaatcatct tcatgctgct atttttaacc cagtgttggt taaatgtaaa 1200

ttacaggaac caaaggcatc gtttgatgtg taaactgctt actatttctt tatctttcaa	1260
agaaaataga gcctgtcttg aaatggtgat ttatggtaca tactaggcat caatggtctt	1320
gtgtttttgt agatgcttat gattaattgt attcagaaaa aatatttttt attataactta	1380

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 <212> DNA  
 <213> Homo sapiens

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aaggctgcca aagaaggggg agcaccctg tcccaaccct aggatcctgg cagtggttcc	120
tggtcccatt cttcctaaat catgctaggg catgctttta acaaggggtca aatatcttgc	180
tttgcacatc ctttgctttc tcgatccagg gccataaaaa aaaaaggaat aaaaccaga	240
cacagagcca gagcaccct atgccaaatg tcaaagatta taggctaatt tcacctgtat	300
tctctttcta cagagattat ggagcaagaa aactgaagcc aagccacatc aaggtttgac	360
agggatgaga tacctgtcaa ggattcatag tagagtggct tactgggaaa ggagcaaaga	420
atctcttcta gggatattgt aagaataaat gagataattc acagaaggga cctggagctt	480
ttccggaaaa agtgctgtg actatctaag gtaactaaac aacttctggg tataagtttg	540
tttttgtgga aaataaacta aaatctctac tatttaacaa ggacagctgt atcaggacca	600
aaagaaggca gaggggtgtt ttcttccttc ctctaccagt ttgttcttcc aaagaggcaa	660
atacatagag ggagacatag cacagatgac cttagggat ggaatgatgc caaaggctgt	720
tgatgtaaga aagagagatt aactcagttt ttttttgtt tttgtttttt tgttgttgtt	780
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 <212> DNA  
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atatattcca caccaaggca tcagtaagaa ttaattttta aagtctgctc taatgtgaat	120
ataaaattat gtaagaactc tgtataataa gctcacagag tacaagaaag gagaggaaaa	180
aagtaaaaga gaactgcaa agaactatga gggatttcca aacagcaaaa ttgtcattga	240

agccatgaga aactctactc actaaattct ttaattttctc agcctaccca aatattgggc	300
aaaccctaata tctcttgcag gggaaaagct gagagtcttg aactagccta tcttccgagg	360
acttagagac aacagtatgg gaatttcaac gagacgtttt tactttcttt tgaccaagat	420
tcaaattctt tattccagcc cttgataagt aaataagaag gtaaaggact atttatttgt	480
aaaaagtttt tcatgatttt gtgatggcac cttgttccat atcatctcag ataaatcaga	540
ataatttgtg aaaattactc ggtgatttcc acattagata ttttaaacct aatgttattt	600
ctaaaacaaa aaccaaccag gagaatccaa ttaagtaaaa tgtatgtatt aatataaatt	660
agctattccc atctggaaaa gggcagccat ttctgtgttg aggtgcctca atgatactga	720
ggctgagaca ggtagatga tacaggcata ccattagcag cagactcaat actaaccag	780

<210> 72  
 <211> 1025  
 <212> DNA  
 <213> Homo sapiens

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agaatttttt aaatgctttt aaaaaatgga caaaattata gatattcttg agtttaaata	180
taatgtttat atattatata tactgtacat tgtagaatgg cttaatcaaa ctaattaaca	240
ttaagtacag acttttgata gatttatgaa cttggcttat tgagaatgag gttgaatgat	300
gatgttttca agttcaaatg tgtagtgcag tactaaaagc atgacttaat gtttatagct	360
ttaaaaagtt actaaagaat gacatttttg ttgatgttct tatgccaat cgcttgcttt	420
cctaactctt gtgcaatttt tctttttatt gcaggtaatt cgtatgcaag aagctacacg	480
taattaaatg tgcaggatga aaagatggca caggcactgt tggtagcccc aggacctgaa	540
agcttccgcc tttttactag agaattctct gctgctatcg aaaaacgtgc tgcagaagag	600
aaagccaaga agcccaaaaa ggaacaagat aatgatgatg agaacaaacc aaagccaaat	660
agtgacttgg aagctggaaa gaaccttcca tttatttatg gagacattcc tccagagatg	720
gtgtcagagc ccctggagga cctggatccc tactatatca ataagaaagt gagtattgat	780
tttagacttc taataaatct ttaatgaaac tcttaactgt aatatacttt tctgggcctt	840
atatacagca tcacaatttt tcttctgtta aagattttat aatactcttc actgtcactt	900
atttttatca caatataata aaacaaacat ttataagaaa tgaagtcaag agttgggttac	960

agtcaggaaa tatgaataga tgaatgattt ctacaatttc acagtgataa ttcagatagt 1020  
caaaa 1025

<210> 73  
<211> 433  
<212> DNA  
<213> Homo sapiens

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taaacaaacc agtttgaaca aacaaattcy attttttaaa aaggtcctca tgtatgtaag 120  
ctccttaaat aagcccatgt ctaatttagt aattttactc gtattttctg tttcagactt 180  
ttatagtaat gaataaagga aaggcaattt cccgattcag tgccacctct gccttgata 240  
ttttaactcc actaaaccct gttaggaaaa ttgctabsaa gattttggta cattcatatc 300  
cttttaatgt gaattgccta aatgctattt ctaacagttg attttaaaga aaatgtcagt 360  
tatattttca agtatctgta aaatttcttt gagattaatg gtaacattgt tagtttaatt 420  
catttatttg cat 433

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<211> 450  
<212> DNA  
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atttataaat ggccatggta acctactaac atttattcct taactataat ctactttatt 180  
cagcatgctt atcatgtgca ctattttgac caactgtgta tttatgacct tgagcaaccc 240  
tcctgactgg acaaagaatg tagagtaagt aggaataact tctgggaatg agaaatgcac 300  
actcaaattc tctagcaatc tccttggtggg tatagcctga cttatgggtt ccacttctgt 360  
ctaagaaaag ttattttcat aatatgcagc cggtaaggga ggtctttcgg gggagctatt 420  
cttctacgag gtaagtattt tcccacaaaa 450

<210> 75  
<211> 701  
<212> DNA  
<213> Homo sapiens

<400> 75

aaaatttacc atttgyggct ttccattaca tttctatcag ataactctgc gctagtaggt	60
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accagattag attcctaaag aatatatattt ctcttcagtt taactctttg ctcaggcttg	180
taaaactaac taaatgaata gattatatttg taaatagaag taaggaacaa tattttaatg	240
aattgaaaaa ccacaaaagg ataggatttg ctatgattga aaacatttat tttaacagtt	300
caagcaaaat tgttaatttt ggcttggatg tttttcctag gtacacattc actggaatct	360
atacctttga gtcacttata aaaatcttgg caagaggggtt ttgcttagaa gattttacgt	420
ttcttcgtga tccatggaac tggctggatt tcagtgtcat tgtgatggcg tgagtaactt	480
tgaaaatttg ataagcgcaa aggagtgaag atagtcatag tacaacaag gtctttgtgt	540
catatattaa atgtagagct ttcttggttag tcaagttaac tatatgggtt gtgtattttc	600
agaatacata ttagaatata tattgcaatg taaatatatc cagtaaatga tcaataaatg	660
gggttatctt catgtcatat agtctttctc ttcacaaaa t	701

<210> 76  
 <211> 286  
 <212> DNA  
 <213> Homo sapiens

<400> 76	
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aactttgcc aaactatcag taactctgat ttaattctgc aggtatgtaa cagaatttgt	120
aagcctaggc aatgtttcag cccttcgaac tttcagagtc ttgagagctc tgaaaactat	180
ttctgtaatc ccaggtaaga agaaactggg gtaaggtagt aggcccccta tatctccaac	240
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<210> 77  
 <211> 515  
 <212> DNA  
 <213> Homo sapiens

<400> 77	
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attgtgtttg tgtgtgaact cccctattac agatatgtga cagagtttgt ggacctgggc	120
aatgtctcag cgttgagaac attcagagtt ctccgagcac tgaaaacaat ttcagtcatt	180
ccaggtgaga gctagggttaa acaccgaggt tgactttaat tattgagttt gaaatcaatt	240
tatatgactt acagcattag cttgttgct tattattaca gttcatcccg gtaaataatg	300

ccaaatgatg tttcaatgtc agtttagctc ctaaaatttt ataaattaca tgcgtattta	360
taaagtcagc ctttgagttt aacagaaaat tgcagagac atcttcaaaa aatgctaatt	420
tgggcctctt gcgctctctc tctctctttt tcactaccat ggctttacta acagatttgg	480
attttaccat tcgctgcaga tgtagttcaa aaatg	515

<210> 78  
 <211> 564  
 <212> DNA  
 <213> Homo sapiens

<400> 78	
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tctaaatagt caagcaatca tttatggggg aaagagaatg tgtgtgacta ttaagaaatc	180
atgattttctg gcactcttcc tcaggtaacc tatagttctc tctctgcagg tttaaagacc	240
attgtggggg ccctgatcca gtcggtaaag aagctttctg atgtgatgat cctgactgtg	300
ttctgtctga gcgtgtttgc tctcattggg ctgcagctgt tcatgggcaa tctgaggaat	360
aatgtttgc agtggccccc aagcgattct gcttttgaaa ccaacaccac ttctacttt	420
aatggcaciaa tggattcaaa tgggacattt gttaatgtaa caatgagcac atttaactgg	480
aaggataaca ttggagatga cagtaagaag tattacatta tgттаacott agtgttgctg	540
aatgaatttt caactataaa tagt	564

<210> 79  
 <211> 497  
 <212> DNA  
 <213> Homo sapiens

<400> 79	
tgagactgtg ggtgtacagc cacctttgta aataactgaa atagtccaac tctgatttat	60
tactaatact aatgtgaata ggattaatat gaaataaaaat ggggtttttt ttgtattaac	120
aggtcacttt tatgttttgg atgggcaaaa agacccttta ctctgtggaa atggttcaga	180
tgcagggtaa gaaacataat atatattttt aagatataga actctttgcg aaaaaaaaaa	240
gtaggtagga aaacaactac atggttatat gtgtagcctt accatgtatg caataaagag	300
cagtgtctgt cccctaggaa gtgccttgtc tgccttaccg gattgccact ggtcctaaac	360
tcacagcaat taaaaattat ccctttgtga agacctttcc ccaaaatttc acagttaaga	420



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<210> 80  
 <211> 501  
 <212> DNA  
 <213> Homo sapiens

<400> 80						
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tcattctgata	agtttccacg	tgggcaatca	cctaaagtgt	tctggaaatt	aaagcaagat	180
aattcgtcac	agatagcagc	tttgggtttt	gaaaattcct	ataagtcaaa	taaattgaaa	240
ttgctgtaat	ttctaaactg	accctacctc	catttctctc	tcttatagcc	agtgtccaga	300
aggatacatc	tgtgtgaagg	ctggtcgaaa	ccccaaactat	ggctacacaa	gctttgacac	360
cttttagctgg	gctttcctgt	ctctatttcg	actcatgact	caagactact	gggaaaatct	420
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aatgaaaagc	ataggctgag	t				501

<210> 81  
 <211> 432  
 <212> DNA  
 <213> Homo sapiens

<400> 81						
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catacatgat	attttttgtc	ctggtcattt	tcttgggctc	atttttatttg	gtgaatttga	180
tcttggctgt	ggtggccatg	gcctatgagg	ggcagaatca	ggccaccttg	gaagaagcag	240
aacaaaaaga	ggccgaattt	cagcagatgc	tcgaacagct	taaaaagcaa	caggaagaag	300
ctcaggtact	gagtgataaa	mgcaaagatt	tatcattatt	attmmttagtt	tctaagtaga	360
aatagtgtta	tactatagag	ggtagattgg	aactgctttt	tcattttata	tatmggcatt	420
gtcattagac	ac					432

<210> 82  
 <211> 489  
 <212> DNA  
 <213> Homo sapiens

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<400> 82
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agttgcggca gcatcagctg cttcaagaga tttcagtgga ataggtgggt taggagagct      120
gttggaaggt tcttcagaag catcaaagtt gagttccaaa agtgctaaag aatggaggaa      180
ccgaaggaag aaaagaagac agagagagca ccttgaagga aacaacaaag gagagagaga      240
cagctttccc aaatccgaat ctgaagacag cgtcaaaaga agcagcttcc ttttctccat      300
ggatggaaac agactgacca gtgacaaaaa attctgctcc cctcatcagg tatgattttc      360
tactaagtgc tctggtttct ttgtcattgc tattgctttt tagtttttgt attttgtttt      420
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ttgtttaaa                                     .      489

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<210> 83
<211> 653
<212> DNA
<213> Homo sapiens

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<400> 83
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ataaatttga ttatccatgt ttaagggcaa gagtatacta actccaaaga aaacagatcc      180
tttaatatata atatttatta aataattgcg ttcttcccct acccccatcc cattcctttc      240
ctttttgctt tctctgcagt ctctcttgag tatccgtggc tccctgtttt cccaagaagc      300
caatagcaaa acaagcattt tcagtttcag aggtcgggca aaggatgttg gatctgaaaa      360
tgactttgct gatgatgaac acagcacatt tgaagacagc gaaagcagga gagactcact      420
gtttgtgccg cacagacatg gagagcgacg caacagtaac gttagtcagg ccagtatgtc      480
atccaggatg gtgccagggc ttccagcaaa tggggaagat gcacagcact gtggattgca      540
atggtgtggg ttccttggtg ggtggacctt cagctctaac gtcacctact gggcaacttc      600
cccagaggtg ataatagatg acctagctgc tactgacatt attcaccaat ttg      653

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<210> 84
<211> 566
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature

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<222> (477) .. (477)  
<223> n = a, c, t or g

<400> 84  
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tgcaaagaaa tgctatgtgg tgttgtatta cttattggga agagtgggtt gagccatcag 180  
tatttggttt gcagggcacc accactgaaa cggaagtcag aaagagaagg ttaagctctt 240  
accagatttc aatggagatg ctggaggatt cctctggaag gcaaagagcc gtgagcatag 300  
ccagcattct gaccaacaca atggaaggta agagcaggtc atggaacagc caactttctg 360  
tgattatgtg ctttgtgaac tattccttct tttcatagaa ttactgaagt ctgttaccca 420  
gatcgaacta tatattagac ctaagaatgt gatatatggg gtacattatc acattgntta 480  
caaaaactaat attggcctta ttctttttga cttgggtcct taccttactt gcagagtgat 540  
atttcaacac ttgatattat atcaat 566

<210> 85  
<211> 748  
<212> DNA  
<213> Homo sapiens

<400> 85  
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aaaaagtcga tctatatgac attttaatta acattttctg aaaatattta atgggattgt 120  
cttctcaagt ttcttaagta atatgaactt ctattttcaa atataagcat caattttgtt 180  
aaataatgta aaatctacta gcaataataa ctcatTTTTg ttgttattta ctactcttcc 240  
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gatttgccaa tgtgttcttg atctgggact gctgtgatgc atgggttaaaa gtaaaacatc 360  
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gagagataga ccaaagggaa agatgtatTT gtgctgtggt gaacccaaaa attatacct 600  
ctttcctcat agaaagaaat atctaaggaa tattacaggg aatctcagag atacagccta 660  
aaactcaact ggtatgaatg ctgattgttt aggccaatgt ctgtgctgat tgatcatggg 720  
gtcttaccag ttgtaaactg ctcaaaat 748

<210> 86  
 <211> 664  
 <212> DNA  
 <213> Homo sapiens

<400> 86  
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 tgtctaattgt tcttctttat aaattcgtgt agcatcagtg ttttcagtg tcttgatagt 120  
 agtgctgatc tctaattttt taggtcttta ctgggatttt tacagcagaa atggttctca 180  
 agatcattgc catggatcct tattactatt tccaagaagg ctggaatata tttgatggaa 240  
 ttattgtcag cctcagttta atggagcttg gtctgtcaaa tgtggaggga ttgtctgtac 300  
 tgcgatcatt cagactggta tctatttata tatatccctg tcgctcattg gcacaacatt 360  
 tattttgaaa ttgaatcaat gtatatttat ataattatta attttaattt taaatttaca 420  
 tcaatatgtg acattctaag aaaacatgta aacatccyct ttaaagctaa accattttct 480  
 aagaatgatg aaagcattca aaatactcta taatgattag gtatgtaggg cacattagaa 540  
 aacctacaag tactttctaa aactgtgttt taagtttatg aagctttttt ggcccttacag 600  
 tctgtaaaga tacgcaaata aaaatttaga cccagttta ttttagcttt ttattaacct 660  
 tact 664

<210> 87  
 <211> 750  
 <212> DNA  
 <213> Homo sapiens

<400> 87  
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 ccacgtgtgg ttctatgata ccacatacta ataaaataat gtctaaaatt atattatgat 180  
 tactactaac agcatctttt cacttgatta cagcttagag ttttcaagtt ggcaaaatcc 240  
 tggcccacac taaatatgct aattaagatc attggcaatt ctgtgggggc tctaggaaac 300  
 ctcaccttgg tgttggccat catcgtcttc atttttgctg tggtcggcat gcagctcttt 360  
 ggtaagagct acaaagaatg tgtctgcaag atcaatgatg actgtacgct cccacggtgg 420  
 cacatgaacg acttcttcca ctcttctctg attgtgttcc gcgtgctgtg tggagagtgg 480  
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atgttgggtca tggtcattgg aaaccttgtg gtatgtatgt agtacaaatg ctcataaatt	600
agaacaagag cagacagtag ctaggaacgt ggccagatgt agtaaacata tctctggttt	660
atagtaagtg gcctagactg aaatccccct attagcactc agagaataag caagttattt	720
aacttctcct gggctctggt ttcccatttt	750

<210> 88  
 <211> 768  
 <212> DNA  
 <213> Homo sapiens

<400> 88	
ccttagagca ggatattagg tcctttaaag agtgtgtgac ttagacatgg catctgaaat	60
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ttttaggctg ttattttaaat gcatatttca atattaarat aggcattttt ctttttttct	180
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agccaaaagt tatagaaatc catgaaggca ataagataga cagctgcatg tccaataata	420
ctggaattga aataagcaaa gagcttaatt atcttagaga tgggaatgga accaccagt	480
gtgtaggtac tggaagcagt gttgaaaaat acgtaatcga tgaaaatgat tatatgtcat	540
tcataaaciaa cccagcctc accgtcacag tgccaattgc tgttgagag tctgactttg	600
aaaacttaaa tactgaagag ttcagcagt agtcagaact agaagaaagc aaggaggtaa	660
ggaatgcttt taaatttttt gttccatttc ctatgataac catgtactac agttatttac	720
tatttttcatt gtgcttatat gcattatcga aaagcaatga ttgtaagt	768

<210> 89  
 <211> 471  
 <212> DNA  
 <213> Homo sapiens

<400> 89	
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ttttcacaca atgacacagt atttcccagt tagttaaata aaagggggaa aatcacatct	120
ttgaaatggg attttgtttc cagaaattaa atgcaaccag ctcatctgaa ggaagcacag	180
ttgatgttgt tctaccccga gaaggtgaac aagctgaaac tgaacccgaa gaagacctta	240
aaccggaagc ttgttttact gaaggtaaac aagctctgat gtgattaaat acaatctccc	300

cttgttcttt acggagactg aatatgcctc atttaaaaaa aaaaatttag caaacgaggt	360
gtgggtggctt atgcctgtaa ccccaaaatt ttgggaggtc acggtaggag gattgcttga	420
ccccaggagt ttgagaccac cctgggaaat gtagtaaggc tttgcctcta c	471

<210> 90  
 <211> 623  
 <212> DNA  
 <213> Homo sapiens

<400> 90	
gaattctaag tagctggctg agtatataag tctgagaata attcattata caggagggat	60
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gagtggggaa ggggcaagaa agtttatttt ttcctattta agattaaaat atatttttta	180
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gaagaaggca aagggaagat ctggtggaat cttcgaaaaa cctgctacag tattgttgag	300
cacaactggt ttgagacttt cattgtgttc atgatccttc tcagtagtgg tgcattggta	360
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tggcacccaa ggtttaacga tgcaaaattc agttctgaac aaatcagcac catgaaacag	540
ccagatggaa tttctcatct ggtgtttatc taacagatgt tttcctcact gagacaacca	600
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<210> 91  
 <211> 520  
 <212> DNA  
 <213> Homo sapiens

<400> 91	
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ttattctttt gtactcacta ttatactaag caattttttc aaatatttag aagaagcaag	120
ccatttaagt aaaataaaat atttttgatt cataggcctt tgaagatata tacattgaac	180
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tcatgggaaa gagtagagga ggtcctaaac atgggcagtg	520

<210> 92  
 <211> 595  
 <212> DNA  
 <213> Homo sapiens

<400> 92	
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attgacacgt gttgataaat atgggcaagt attctggttt cattgggttaa aaaaaagcaa	180
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gtcaacagtt tatttcttgg tgaactaatt aatttttttt tccttttgta ggtttctttg	360
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agaatagaca ctctaattat tcatgtcaaa aattacatgt aggtaatgat ttagatagaa	540
aagggtgcca tactcttctg atattttatt caatagaaat tacagaatta gaagc	595

<210> 93  
 <211> 787  
 <212> DNA  
 <213> Homo sapiens

<400> 93	
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catactgtag catattttgc tttccttaaa accttagctc tttagttgtg tcattgtttg	120
ttttccttca aatatgtgct agaaaaatta gaagaaacaa cttgtccacc tagattttta	180
tttaactctt ttcaagcaca tattaatact aaacaaatac attgaaggaa tggtttccat	240
tcaaaagggt tgtaagctat gttccctcg ctgtctcttc taggtggttg tgaatgctct	300
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caagcaagct cgggtggaaa acgtgaaagt aaactttgat aatgttggcg ctggctatct	540
tgcactgctt caagtggtaa gtggctactg tacgagtttt gaaaaagttt tcaagatggt	600

tcaaggaaga ttatttccct gatgttcttc gtttgaatga ctaacatttg acagcatgaa	660
aaaaagttaa tgataacacc tataatatca gcttgaattg atcataaaaa agatgttaca	720
attattttat aatgtatttt ccttagtggt aagcttttag tatgttttaa tgtgatttta	780
tattttct	787

<210> 94  
 <211> 438  
 <212> DNA  
 <213> Homo sapiens

<400> 94	
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ctcttgatat gaaatttcac aatattgtac aaaaagttat ttgttataat actgtcagat	120
tttcatctgg ttaaattgtca ttgttaggtg aaatttttat gaacaattca aatatatgtt	180
atttacaggc cacatttaaa ggctggatgg atattatgta tgcagctggt gattcacgag	240
atgtaagtat cactcaaata ttatttatag gttctagatt tcttatgggtg aatattgggtg	300
gtaatttaaa cactgatata tccaaaattc tatattagaa catttaatat tgcatataaa	360
aaatgaacag tctgcttcaa tatagatgat gcttgattaa tgtgtgcta atatacaata	420
tgtagcta atgaaacg	438

<210> 95  
 <211> 637  
 <212> DNA  
 <213> Homo sapiens

<400> 95	
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actagatcat actagtttta aaaaattggt tttgtagaac aatatctcag ggtaaggcaa	120
aagtagcact gtattaagta acagcactca ataaattact gatttagtgt aagtatttat	180
agtatttttc atattattta atattttcaa tatcatttag gttaaacttc agcctgtata	240
tgaagaaaat ctgtacatgt atttatactt tgtcatcttt atcatctttg ggtcattctt	300
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actatgtctt tactttggag gtcaagacat ctttatgaca gaggaacaga aaaaatatta	300
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<210> 114  
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<210> 119  
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<210> 120  
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<210> 135  
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<210> 138  
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<210> 140  
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<210> 141  
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<400> 141  
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<210> 142  
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<210> 143  
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 <400> 154  
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<400> 157  
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<210> 158  
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<210> 255  
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<210> 269  
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